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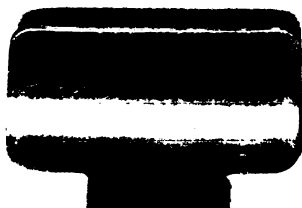
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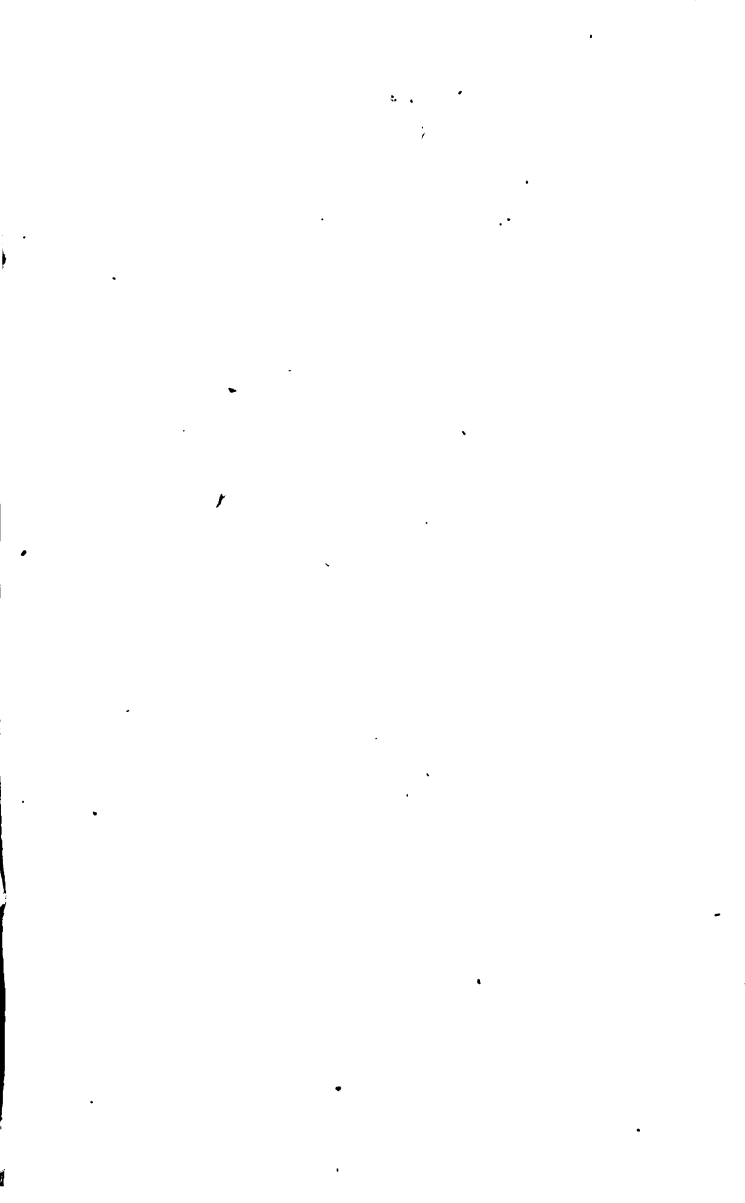




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NEW ENGLAND

BOOK OF FRUIT.

**BOSTON:**  
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Bartlett Pear.

THE  
*New England*  
**BOOK OF FRUITS**

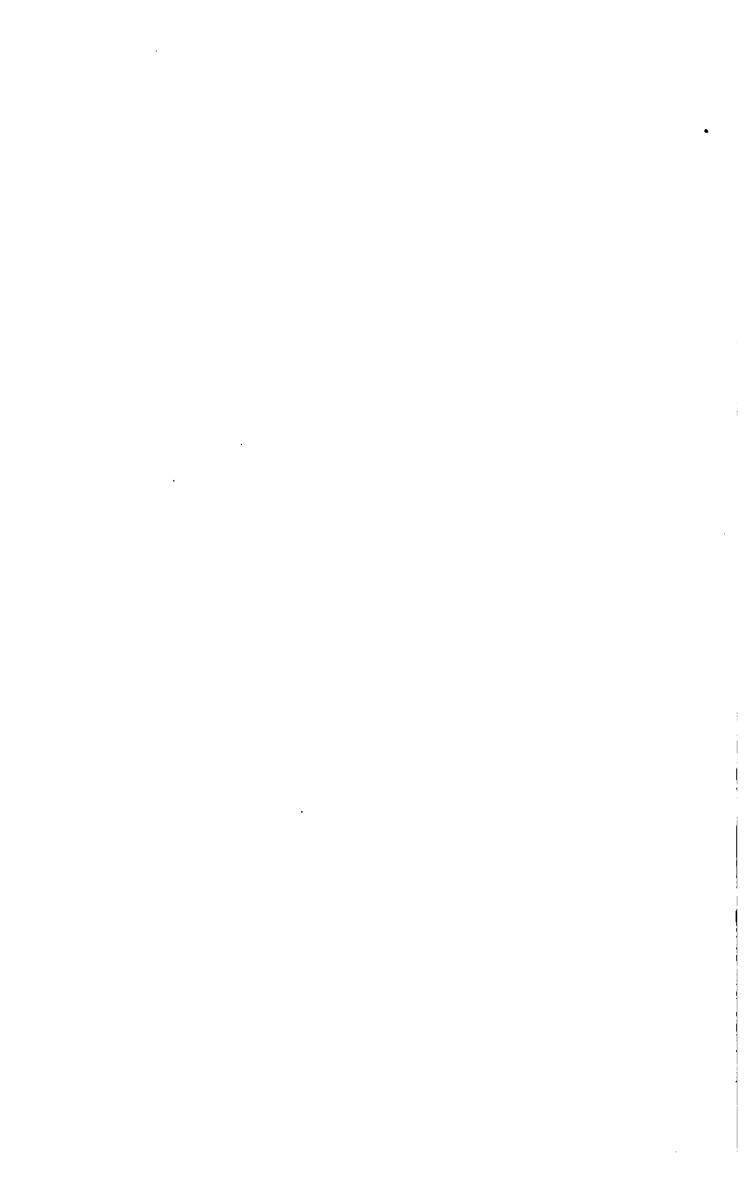
Containing the  
APPLE, PEAR, PEACH, PLUM, CHERRY, GRAPE &c

BY •

JOHN M. IVES.



SALEM.  
W. & S. B. IVES, PUBLISHERS.  
1847.



**NEW ENGLAND  
BOOK OF FRUIT;**

CONTAINING AN ABRIDGMENT OF

**MANNING'S DESCRIPTIVE CATALOGUE**

||

OF THE MOST VALUABLE VARIETIES OF THE

**PEAR, APPLE, PEACH, PLUM, AND CHERRY,  
FOR NEW ENGLAND CULTURE.**

TO WHICH ARE ADDED THE

**GRAPE, QUINCE, GOOSEBERRY, CURRANT, AND STRAWBERRY;**

WITH OUTLINES OF

**MANY OF THE FINEST SORTS OF PEARS**

**DRAWN FROM NATURE;**

**WITH DIRECTIONS FOR PRUNING, GRAFTING, AND GEN-  
ERAL MODES OF CULTURE.**

**THIRD EDITION, REVISED AND ENLARGED.**

**BY JOHN M. IVES.**

**SALEM:**

**W. & S. B. IVES.**

**BOSTON: W. J. REYNOLDS & CO., B. B. MUSSEY & CO.**

**AND FOR SALE AT MOST OF THE AGRICULTURAL AND SEED STORES IN  
THE UNITED STATES.**

**1847.**

Entered according to Act of Congress, in the year 1847,  
By JOHN M. IVES,  
In the Clerk's Office of the District Court of the District of  
Massachusetts.

ADD'L

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1847

## P R E F A C E .

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IN publishing a third and enlarged edition of this Manual, we have retained the outline drawings of most of those Pears found in the previous edition, they being proved from experience to be desirable kinds. Many varieties of Fruit, particularly Pears, are, so far as our own observation and experience go, hardly worthy of cultivation: they are therefore omitted. We have not inserted drawings of Apples or Peaches, from the difficulty of identifying these fruits by a single specimen. Our object, as said in the former edition, has been to bring together the experience of practical cultivators in a condensed form, and at a low price.

M351679

The initial M. is placed at the end of those varieties which were originally described by Mr. Manning in the first edition of the "Book of Fruits;" his description being retained.

The present edition contains a descriptive catalogue of

69 varieties of Pears.

55    "        " Apples.

24    "        " Peaches.

29    "        " Plums.

19    "        " Cherries.

Also Currants, Gooseberries, Strawberries,  
Quinces, and Grapes.

J. M. I.

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## NEW ENGLAND FRUIT BOOK.

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### ROOT, SAP, ETC.

THE root being the commencement and foundation of trees, its office is to collect and apply the food which forms and determines its growth; hence if roots grow luxuriantly, the branches will also, and the reverse. "It often happens," says Miller, "that the roots of trees are buried too deep in the ground, which, in a cold or moist soil, is one of the greatest disadvantages that can attend fruits; for the sap in the branches being, by the warmth of the air, put strongly into motion early in the spring, is exhausted in nourishing the blossoms, and a part of it is perspired through the wood branches, so that its strength is lost before the warmth can reach the shoots, to put them into an equal motion in search of fresh nourishment, to supply the expenses of the branches, for want of which the branches fall off and decay. Most trees will thrive if they have two feet in depth of good earth, especially when their roots spread near the surface; for whether that which supplies food for the tree be a black, yellow, or brown loam, it can only be furnished within a certain depth from the surface, or within the influence of the sun and air. Large roots, running deep and

spreading wide, may be necessary to produce large timber trees, but not fruit trees; for these are more prolific when their roots are much divided or fibrous, and kept near the surface of the soil."

The following remarks upon the theory of the motion of the sap in trees is from the pen of one of our best writers upon horticulture:—  
"The first motion of the sap in the spring takes place in the *branches*, and lastly in the roots; the buds, in consequence of the increasing temperature of the air, first swell and attract the sap in their vicinity: this fluid, having lain dormant, or nearly so throughout the preceding winter, becomes gradually expanded by the influence of the solar rays, and supplies the buds with nourishment from the parts immediately below them; the vessels which yield this supply, becoming in consequence exhausted, are quickly filled with fluid from the parts below them; and in this manner the motion continues until it reaches the roots, the grand reservoir of the sap, by which time, the solar heat having penetrated the soil, the roots begin to feel its enlivened influence. The whole body of sap then begins to move upwards; and as soon as the quantity propelled is more than sufficient to distend all the vessels in the stem and the branches, the buds begin to elongate and unfold. From this time, the fluid becoming more expanded every hour, its ascent is simultaneously increased in force and velocity; the vessels in the branches being filled to repletion, the buds quickly open, and shoots and leaves rapidly protrude; the leaves attract the sap as soon as it reaches their vicinity, and, by one of the most wonderful processes that

can be conceived, the result of exquisite organization, prepare it for the nourishment of the plant. It then returns downward, *betwixt the bark and alburnum*, and in its descent is distributed *laterally* to every part of the plant, until it reaches (finally) the extremities of the roots."

## TRANSPLANTING.

In the removal of trees, care is necessary to obtain as much of the roots as possible, and in re-setting, that none are doubled back and distorted. Cutting off *smoothly* the end of each root that may be broken, or cut by the spade, is indispensable, and all fibrous roots that are injured should also be cut *close* to the root upon which they are attached; the root or stem should be pressed close down upon the soil, so as to place the roots in a horizontal direction, and all of them drawn out straight like a fan, or rays verging from a centre to a semicircle, and the soil thrown evenly over. Trees should not be shaken, or lifted up and down, after the earth is placed upon their roots, as is too generally practised; for when a tree is thus raised up, the smaller roots will be drawn out of their places, and when the stem is thrust down again, the roots, being too weak to force their way back into the soil, will be doubled up, which often causes knobs, and throws out suckers; neither will the earth require to be trodden down *hard*, but gently; or if the soil be that of a dry or loose loamy nature, setting in *puddle* (which is to water as you set it) is an excellent process. Copious watering, *after a tree is set*, is often very prejudicial, as it will frequently wash away the soil, and leave open spaces around the roots.

Fruit trees should rarely be placed deeper in the ground than they originally stood in the nursery. In removing large trees, it is a good practice to cut off many of the large roots some distance from the tree *a year previous to their removal*; for, wherever the roots are thus cut through, the new fibres which are emitted (provided the tree is in health) in short tufts, are far more easily taken out of the ground without injury, than if they were longer, and more scattered among the soil.

Autumnal planting is often preferred in light sandy soils, and spring planting on soils of a strong and wet nature. From our own experience in setting fruit trees for some years past, we are inclined to prefer the spring, *provided it can be done early*, particularly for stone fruit. Damp, but not rainy weather should be preferred, particularly in dry soils: nothing is more injurious to any tree than to be taken up, even if immediately afterwards planted, during frosty or dry windy weather. Not only do the roots, under such circumstances, sustain injury during the time they are thus exposed, but the dry parching atmosphere, which must, in such cases, surround the whole surface of the tree, greatly exhausts it; while it is prevented from absorbing a fresh supply of food from the soil, in consequence of its roots being more or less shortened or diminished by the operation. If trees are found to grow too luxuriantly, and to form only wood for years, even after they are of sufficient size and age for the production of fruit, the earth should be removed just before the frost sets in, and a proportion of the deepest growing roots cut off; thus checking its luxuriansness, and rendering it more fruitful.

The following excellent "Hints for Transplanting" are from the Nursery Catalogue of A. J. Downing, of Newburgh:

"1. Many persons plant a *tree* as they would a *post*! The novice in planting must consider that a tree is a living, nicely organized production, as certainly affected by good treatment as an animal. Many an orchard of trees, rudely thrust into the ground, struggles half a dozen years against the adverse condition, before it recovers.

"2. In planting an orchard, let the ground be made mellow by repeated ploughing. For a tree of moderate size, the hole should be dug three feet in diameter, and twelve to twenty inches deep. Turn over the soil several times, and, if not rich, mix thoroughly with it some compost, or well-rotted manure. In every instance the hole must be large enough to admit all the roots easily without bending. Shorten and pare smoothly with a knife any bruised or broken roots. Hold the tree upright, while another person, making the earth fine, gradually distributes it among the roots. Shake the tree *gently* while this filling is going on. *The main secret lies in carefully filling in the mould, so that every root may meet the soil*; and, to secure this, let the operator, with his hand, spread out the small roots, and fill in the earth nicely around every one. Nine tenths of the deaths by transplanting arise from the hollows left among the roots of trees, by a rapid and careless mode of shoveling the earth among the roots.

"3. When the hole is two thirds filled, pour in a pail or two of water. This will settle the soil, and fill up any little vacuities that may remain. Wait until the water has sunk away, and then fill

up the hole, pressing the earth *moderately* around the trees with the foot. The moist earth, being covered by the loose surface soil, will retain its humidity for a long time. Indeed, we rarely find it necessary to water again after planting in this way; and a little muck or litter placed around the tree, upon the newly moved soil, will render it quite unnecessary. Frequent surface watering is highly injurious, as it causes the top of the soil to bake so hard as to prevent the access of air and light, both of which, in a certain degree, are absolutely necessary.

"4. Avoid the prevalent error (so common and so fatal in this country) of planting your trees too deep. They should not be planted more than an inch deeper than they stood before. If they are likely to be thrown out by the frost of the first winter, heap a little mound about the stem, to be removed again in the spring.

"5. If your soil is positively bad, remove it from the holes, and substitute a cart-load or two of good garden mould. Do not forget that plants must have *food*. Five times the common growth may be realized by preparing holes six feet in diameter and twice the usual depth, enriching and improving the soil by the plentiful addition of good compost. Young trees cannot be expected to thrive well in *sod land*. When a young orchard *must* be kept in grass, a circle should be kept dug around each tree, we think, to the extent or spread of the branches. But cultivation of the land will cause the trees to advance more rapidly in five years than they will in ten, when it is allowed to remain in grass."

Deep planting of fruit trees is, we believe, a

serious evil, and many of the disappointments of the fruit grower may be traced to this cause; it is better, particularly in *moist soils*, to set a fruit tree at least two inches higher than when grown in the nursery; and if necessary, let the earth be heaped up around in the form of a hillock; by this means the roots will have a horizontal direction given to them, which they will afterwards retain. Shallow planting induces the roots to extend themselves near the surface, and prevents their extending downwards into a bad or cold subsoil. Liebig's leading principle is, that the carbon of plants is chiefly derived from the atmosphere. This suggests the importance of admitting air to the roots of plants by inviting them to the surface.

Autumn planting of trees is preferable when the soil is dry, as the fall rains settle the soil closer to the roots; but when the soil is clayey, and the weather damp or soft, at planting time, it gets into a state of puddle and rots the roots in winter; and unless the weather is dry at planting time in autumn, such planting had better be deferred until spring.

In watering newly planted trees in dry weather; before levelling, saturate the soil completely all round the roots, and then finish by spreading dry soil above; water poured on the surface runs it into a paste, which hardens by the sun into a cake, obstructing the free entrance of the atmosphere into the soil, without which no plant will thrive. Surface waterings often do more harm than good. Mulching, by placing litter around a tree, will preserve the moisture, and is a much better practice than surface waterings.

Standard fruit trees should be allowed thirty or forty feet distance; let none be planted closer than twenty feet in a garden; dwarf trees, from twelve to fifteen feet.

#### PRUNING.

In this department of culture, no explicit directions will indiscriminately apply to each variety of fruit trees. Peaches, cherries, and plums, are always in the greatest vigor when they are the least maimed by the knife; for when these trees have large amputations, they are very subject to gum and decay; so that it is certainly the most prudent method, with stone fruit particularly, carefully to rub off all useless buds, when they appear. Fruit trees in this latitude should not be pruned in the fall or winter months, as they are at those times exceedingly apt to crack or canker. The best season for this work is at, or soon after, the swelling of the buds or expanding of the leaves; the sap being then in vigorous motion, the wounds soon heal over. Every limb taken off should be cut *close* to the main stem; and, provided the limb is large, a composition of tar and red ochre, or grafting wax, should be spread upon the end to keep out air and moisture. From the strong growth of fruit trees in our country, and the dryness of its atmosphere, severe pruning is less necessary here than in England, from whence we have derived many of our instructions. Excessive pruning with us is apt to generate suckers, or what is termed water shoots, from the limbs. Judicious pruning, however, will promote health and early fruitfulness.

Trees, even of the same species, differing as they do in form of growth, require very different treatment. Coxe, of New Jersey, recommends the practice of forming the heads of trees in the nursery the year before they are removed. Every limb which crosses another should be taken off; the external branches, particularly in apple and pear trees, should be everywhere rendered thin and pervious to the sun. The great principle to be attended to in pruning apple trees, is cutting out all dead, diseased, or useless branches, at their base, and thinning those that are healthy and vigorous, so that the sun and air may penetrate *to* (not *through*) every part of the tree. Few people have confidence enough to do this effectually; but they may be assured that they would have more and better fruit, were they to retain one half the number of branches which in general at present exist in most orchards. In speaking as we have of the difficulty there is in giving explicit directions on pruning, the following remarks of "Salisbury" are very judicious:—

"Pruning trees is a work respecting which every gardener pretends to have a competent knowledge, and those who have written on the subject have endeavored to lay down rules for the operation; but I confess, that although I have had considerable experience for many years, and know the theory on which rules for it may be formed, yet I am incapable of communicating my ideas on the subject, as it wholly depends on the state of the trees; and it would be as absurd for me to tell any one what branches he should cut out, and what leave, by description,

as it would be for a physician to prescribe for a patient who labors under a severe and acute disease, on the mere report of the nurse, without a personal inspection of his patient. I must be pardoned, therefore, if I say, that nothing but experience, founded on long observation as to the growth of trees, will ever enable a person to discover the proper art of pruning."

Root pruning of fruit trees is now practised in England, as well as in some sections of our country, upon too *luxuriant* growing trees, and although an old practice, says McIntosh, does not appear to have been so generally attended to as it deserves. Mr. Rivers, an English nurseryman, says, "After several years' experience, I feel more than ever the utility of root-pruning of fruit trees when cultivated in gardens, and more particularly when applied to pears, which, in rich and moist soils, are apt to grow so vigorously, that no fruit is produced till many years after planting. Root-pruning, says Downing, should be performed in autumn or winter; and it usually consists in laying bare the roots, and cutting off smoothly at a distance of a few feet from the trunk (in proportion to the size of the tree) the principal roots. Mr. Rivers digs a trench early in November, eighteen inches deep round his trees, cutting them off with a sharp spade. By following this practice annually, he not only throws his trees into early bearing, but forces apples, pears, and the like, grafted on their own roots, to become prolific dwarfs, growing only six feet apart, trained in a conical form, full of fruit branches, and producing abundantly. These dwarf trees he supplies with manure at

the ends of the roots." This plan, writes Downing, "is an admirable one for small gardens, or those who wish to grow a great many sorts in a small surface. Root-pruning, I think, will, in this country, be most valuable in its application to common standard trees, which are thrifty, but bear little or no fruit. Several nearly full-grown peach, pear, and plum trees, on a very rich soil on the Hudson, which were over-luxuriant, but bore no fruit, were root pruned, by our advice, two years ago, and yielded most excellent and abundant crops last season."

## BLIGHT. — CANKER. — INSECTS.

The injuries and diseases to which fruit trees are subject, are often difficult to be accounted for, and various are the methods devised for their correction.

The genus of insects called *Aphis*, or green fly, one or more species being found upon nearly all our varieties of fruit trees, particularly upon those that are young, are very troublesome. They lodge and live on the points of the young succulent shoots, distorting the leaves and checking the growth. Various washings, compositions, and powderings, have been applied for their destruction; among them are the following: — Syringing with tobacco water, lime water, fine air-slacked lime mixed with soot, and strewed over the trees in a dewy morning, burning haulm, or straw sprinkled with sulphur, to windward of the infected trees. These are generally considered good remedies; but the most effectual in our practice, of late, has been the whale oil soap mixture,

for the destruction of most insects that infest our trees. The slimy slug, found upon the leaves of our pear trees, may be effectually destroyed by the application of wood ashes, thrown upon the leaves during moist weather. The canker, a disease which injures many trees, causing the bark to grow rough and scabby, and turning the wood into a rusty brown color, is said, by some, to be owing to a stintiness that takes place in the trees from a bad sub-soil. It is thought by Rodgers, from long experience as a cultivator, to be principally owing to some impure quality in the sub-soil. This theory is, however, different from Forsyth's, who says, that the canker "always proceeds from the branches and stems to the roots, and never from the roots to the tree." Planting high, and in wet soils, even almost to the surface, inducing the roots to take a horizontal direction near the sun and air, is thought to be the best means for preventing this disease. We apprehend that this disease is often brought on by injudicious pruning, leaving the wounds ragged, and thereby admitting water into the wood, which soon begins to decay ; and also from injuries sustained by the bark being bruised by ladders while gathering the fruit. In careless pruning, the dead shoots are often left upon the tree, throughout the summer, which often brings on the canker. The exuding of gum, a kind of gangrene incident to stone fruit, may be owing, in some degree, to injudicious pruning, bruises, or injuries received in the wood or bark, or by cutting the shoots to short stumps in summer. It is often seen where large limbs have been lopped or broken off. Among the insects destructive to

our trees, the borer worm is the most annoying; and we know of no better method to adopt for its extirpation, than that recommended some time since, by A. J. Downing, of Newburgh, which is to examine the trees in early spring, as also in the fall, and cutting them out. The method we adopt as a preventive to their again entering, described under the article "Peach," we believe to be one of the most effective. After cutting out these worms, as also all decayed wood from hollow wounds, the holes should be covered from the heat and moisture, by applying the following composition, which will ordinarily prevent further decay. It is given thus: Take one pound of Burgundy pitch, half a pound of beeswax, and one pound of tallow; melt and spread upon brown paper or cotton cloth (the latter is preferable), and apply closely to the wound. This compound we use also for grafting, as it will ordinarily resist the force of rain, frost, drying winds, and the influence of a changeable atmosphere. With regard to what is called fire-blight, which occasionally affects the pear tree during the months of June and July, causing the branch to wither, and which *may* be caused by forcing, or high manuring, we have never as yet had any trees affected by it, and can therefore give only the directions of others.

On the subject of blight, the Rev. Mr. Beecher, in an article read before the Indiana Horticultural Society, as communicated for Hovey's Magazine, says, "The spring of 1843 opened early, but cold and wet, until the last of May. The summer was both dry and cool, and trees made very little growth of new wood. Towards au-

tumn, however, the drought ceased, copious rains saturated the ground, and warm weather started all trees into vigorous though late growth. At this time, while we hoped for a long fall and a late winter, on the contrary, we were surprised by an early and sudden winter, and with unusual severity at the very beginning. In this region much corn was ruined, and more damage; apples were also caught on the trees and spoiled. Caught in this early winter, what was the condition of fruit trees? They were making rapid growth, the wood unripe, the passages of ascent and descent impleted with sap. In this condition the fluids were suddenly frozen, — the growth instantly checked; and the whole tree, from a state of great excitability, was, by one shock, rudely forced into a state of rest. At length the spring approaches. In early pruning, the cultivator will find, in those trees which will ere long develope blight, that the knife is followed by an unctuous sap, and that the liber is of a greenish yellow color. These will be the first signs, and the practised eye may detect them long before a leaf is put forth." We have noticed, in our own experience, that those trees which make the greatest growth in summer, retaining their leaves late in the fall, are always the most likely to be killed in the following winter. Our opinion coincides with the above sensible pomologist, when he says, "A rich and dry soil would be likely to promote early growth, and the tree would finish its work in time; but a rich and *moist* soil, by forcing the growth, would prepare the tree for blight; so that rich soils may prevent or prepare for the blight, and the difference will be, the difference

of the respective soils in producing an early instead of a late growth. Whenever blight has occurred (he continues), I know of no remedy but free and early *cutting*. In some cases it will remove all diseased matter; in some it will alleviate only; but in bad blight, there is neither in this, nor in any thing else that I am aware of, any remedy. It may be inquired why fall-growing shrubs are not always blighted, since many kinds are invariably caught by the frost in a growing state? I reply, first, that we are not to say that *every* tree or shrub suffers from cold in the same manner we assert it of fruit trees, because it has been observed it must be asserted of other trees only when ascertained. I reply more particularly, that a *mere* frost is not supposed to do the injury. The conditions under which blight is supposed to originate are: a growing state of the tree, a sudden *freeze*, and sudden thawing. We would here add, that many things are yet to be ascertained before this theory can be considered as settled." The editor of the "*Horticulturist*," on the subject of the frozen-sap blight, says, "It is not confined to the pear tree alone: we have seen it in several other trees, the *Ailanthus*, *Catalpa*, and the Spanish *Chesnut*. The latter tree, especially, shows very frequently, while standing in the nurseries and still growing, the same symptoms as the blighted pear tree; first, early in the spring, patches of shrivelled and discolored bark near the lower part of the trunk; second, about the beginning of summer, sudden withering of the foliage, death of the branches, and often of the whole tree. A most important question which we now reach is this:

Are these diseased spots, where the malady first arises, and from whence it is disseminated, the immediate effect of the freezing or the thawing? We think we are prepared to answer this question. The fact that these spots, when they occur on the trunk or larger branches, almost invariably appear on the *southern* side, proves clearly, that it is the too rapid *thawing* caused by the sun's rays. Now the pear tree appears, so far as regards its bark, to be the most tender of our fruit trees. Our climate in winter is often one of the most sudden and extreme variableness. To-night we have the thermometer at zero of Fahrenheit; the next morning we have a bright unclouded sun, that shines on any dark object exposed to it, with all the warmth of April. The consequence to a susceptible tree is obvious. Any part which happens to be especially exposed, from its position upon the southern side of the trunk, is of course most likely to suffer from the sudden and powerful effects of the sun, immediately after severe frost. Here, accordingly, we soon find the sap vessels burst, the bark shrivelled, and the poisoned matter accumulated, which is the source of the blight of the ensuing spring and summer. *What is the remedy for the frozen-sap blight? We propose to prevent the frozen-sap blight, entirely, by white-washing the stems and principal branches of all valuable pear trees, every autumn, after the leaves have fallen.* By this simple operation, we think the injurious action of the sun will be entirely prevented; its rays will be, for the most part, reflected, and the rapid thawing of any large part of the bark rendered entirely impossible. We have ourselves no great admira-

tion for white-washed trees ; they are rather unpleasing and unnatural-looking objects, at the best ; but if we can drive from our gardens and orchards this *monster* malady of the pear, by virtue of a lime coat, we will be content to shut our eyes to all but the economical view of the subject." This form of blight is rare with us, owing, we think, to the general quality of our soil, which is of a warm sandy loam ; the growth of trees is generally completed in the summer, and therefore they escape the malady which is now so common in the rich soils of the West.

The insect blight, which is sometimes confounded with the frozen-sap blight, "we do not consider," says Downing, "a malady of a very serious nature, as it begins at the extremity of the tree, at or near the ends of the branches ; and as its spreading depends entirely upon the care or carelessness of the cultivator, it is his own fault if it ever destroys *many* trees. Experience and observation have convinced us, that the pruning knife, vigorously applied, the moment the insect first commences his attack, in June,\* and faithfully persisted in, will soon rid one's garden or orchard of this minute but most poisonous *scolytus*."

## SALT. — ASHES. — CLAY. — MANURE.

We commenced our experiments upon the use of salt and saline substances, some years since,

\* "Speedily known by the appearance of the shoot, which turns black, leaf and branch, almost immediately, and should be amputated below the discoloration."

particularly with the plum tree, and have succeeded to our utmost expectation. Our land being of a light loam, exceedingly porous, and consequently subject to drought, we applied, early in the spring, upwards of one hundred bushels of leached or spent ashes to about two thirds of an acre, for the purpose of bringing the soil into a more retentive nature. We did not, however, observe much effect produced that summer; but in the following spring, on applying nearly two hogsheads (sixteen bushels) of salt upon the same land, throwing it broad-cast over the whole ground, and around the trees, turning it under the soil a fortnight after spreading it, there appeared a decided change in the nature of the soil; it being less subject to drought, and having a better crop of fruit generally, particularly of plums; which induced us, in the following spring, to apply around our plum trees, as also the quince, as far as the branches extended, the same material, placing two thirds more to the plum than to the quince. Salt, as well as saltpetre, is destructive to insects generally, and is, when applied in proper proportion, an excellent manure, particularly for light soils. We recommended to an individual, some three or four years since, who was complaining of the loss of his plums by the curculio, to dig away the soil around his trees early in the spring, as far as the branches extended, even to the laying bare the top roots, and fill the hole with dock mud, green from the sea-shore. After this experiment, he informed us that his trees produced more plums the year following, than they had done for ten years previous. We have used brine upon gooseberry and currant

bushes, for the destruction of insects, with decided benefit, by dissolving salt in water, in the proportion of one pound to about four gallons. We, however, proportion this mixture according to the state of the plant upon which we use it : thus, for the gooseberry, we applied early in the spring, before the leaves or shoots were at all developed, a decoction so strong as to whiten the branches without injuring the future crop of fruit ; but on the contrary, after the development of the buds or leaves, we use the proportion named in the article " Gooseberry."

We have used clay to a portion of our soil, with decided benefit, by applying it late in the fall, upon the surface, exposing it to the action of the frost, and, when meliorated in the spring, digging it in.

When on a visit to Judge Buel, of Albany, some years since, he informed us that blue or yellow clay applied to light sandy loam, in the manner described above, was a better dressing than barn-yard manure, rendering such soils more retentive of moisture ; and we have found it to be the best application for such a soil.

Liquid manure, which is useful in many cases, is made in the following manner : Collect a bushel or two of horse droppings, which put in a large tub, together with a handful or two of soot ; fill up with water, and stir it frequently. In the course of a few hours, it may be given to the pots once or twice in the week. It should not be allowed to become stale ; the fresher it is, the better. This liquid is more nutritive to potted trees than any thing else, and therefore can safely be recommended for every kind of fruit tree grown in pots.

## GRAFTING.

The origin of grafting is lost in the obscurity of antiquity. The art was carried to a great extent in Italy about the time of the Christian era. The varieties best known, and most generally in use, are whip or tongue grafting, side or bark grafting, cleft grafting, and saddle grafting. The French have, with their usual faculty of invention, enlarged this number to a great extent. Professor Thoin has described above forty methods of grafting. Inarching, or grafting by approach, is another modification of this art. In the spring of 1840, we restored a dwarf pear tree, which was nearly or quite dead, from the root to three inches above the ground, by planting around it four or five seedling pear stocks, and inarching their tops into the living bark eight inches above the surface of the ground. In the following fall, this tree bore nearly half a peck of the green sugar pear. The cleft or stock grafting is the most generally practised in this country; and the whip or tongue grafting is the mode in use in the best fruit-tree nurseries in England. The former method is performed in the following manner:—The head of the stock or branch being cut off, a slit is made in the top deep enough to receive the scion, which should be cut sloping, like a wedge, so as to fit the slit made in the stock. Care must be taken, that the side of the wedge which is to be placed outward be thicker than the other; and in placing the scion into the slit, it must be so adjusted that the rind of the scion join that of the stock: the whole should then be clayed, or covered with grafting wax, to keep

out the air. The other method, whip or tongue grafting, is so called from the manner of cutting both the stock and scion in a sloping direction on one of their sides, so that when brought together they fit exactly, and thus may be tied together in the manner of a whip-thong to the handle. In former times this species of grafting was performed without a slit or tongue, and in that case the former term was more applicable. Subsequent practice has added the slit or tongue, which has not inaptly given rise to the latter term. In performing the first, nothing more is required than merely to cut obliquely at corresponding angles to the stock and scion, so that, when the incisions are brought together, they fit exactly; then the inner barks of both being brought to unite, on one side at least, a union takes place. The other variety of this mode, that is, tongue grafting, is performed as follows:—The scion and stock being cut off obliquely at corresponding angles, cut off the tip of the stock obliquely, or nearly horizontally; make now a slit nearly in the centre of the sloping face of the stock *downwards*, and a similar one in the scion, *upwards*; the tongue or wedge-like process forming the upper part of the sloping face of the scion, is then inserted downwards in the cleft of the stock, the inner barks of both being brought closely to unite on one side. Saddle grafting is another method well adapted for standard trees, particularly when the stock is not much larger, in diameter, than the scions to be put on them. In performing this operation, the head of the stock is cut in a wedge-like form; the scion is then split up the middle, after which each half is pared off to a tongue shape, and is then placed

on the wedge-shaped top of the stock, taking care that the inner bark of both stock and scion join on one side at least; the whole is then tied fast with bast matting, and covered with waxed paper.

Grafting under the bark in spring, when the bark will separate from the wood, in the manner of budding, we have practised for many years, with good success. The following are the different varieties of this mode:—

*a* Van Mons method of grafting under the bark.



*b* In this modification of Van Mons method, we have been more successful by inserting the scion on the lower extremity of the cut, as shown in this sketch.



*c* Thom's Summer Grafting, by raising the bark up upon one side, leaving the opposite side undisturbed.



In these several modifications of bark grafting, the lower end of the scion must be pared off, and then applied closely to the wood under the bark. Root grafting, which is seldom practised upon fruit trees, is sometimes resorted to when stocks are scarce: the mode of performing this, is generally by cleft grafting. We prefer, however, the whip, or tongue method. Our practice would be first to cut the roots into lengths of about six inches, well furnished with fibres, then with a sharp knife to commence by accurately fitting each

scion, covering the cut part with brown paper or cotton cloth, which has been previously covered with grafting wax. Last spring we engrafted the pear upon roots of the quince, and immediately set them out, covering them to within two buds of the scion. Nearly all made a good growth the past summer. In this mode of grafting, care must be taken that the roots are kept moist.

In the choice of scions, we usually select those from the young wood of the previous season's growth, choosing them from the outside lateral branches in preference to those growing in the centre. These should be cut from the parent tree some time previous to the season for grafting, as it is found to be better that the stock should be in a more advanced state of vegetation than the scion.

The following is an excellent mode of grafting : — When the bark will readily peel from the alburnum, the head of the stock is then taken off by a single stroke of the knife, obliquely, so that the incision commences about a diameter below the point where the medulla appears in the section of the stock, and ends as much above it as on the opposite side ; the scion, or graft, which should not exceed in diameter half of that of the stock, is then to be divided longitudinally, about two inches upwards from its lower end, into two equal divisions, by passing the knife upwards just in contact with one side of the medulla. The stronger division of the graft is then to be pared thin, at its lower extremity, and introduced, as in crown-grafting, between the bark and wood of the stock ; and the more slender division is fitted to the stock upon the opposite side. The graft, con-

sequently, stands astride the stock, to which it attaches itself firmly upon each side, and which it covers in a single season. Grafts of the apple and pear rarely ever fail in this method of grafting.

In grafting grape vines, it is necessary to cut your scions very early in spring, before the buds swell, keeping them in a cool cellar, inserted in sand or earth; when the leaves of the vine upon which you intend to insert the scions are fully expanded, and all danger of bleeding is over, which takes place in June, cut off the shoot below the surface of the ground, split it in the manner of cleft grafting, inserting one or more scions containing two or three buds; draw the soil up to the lowest bud of the scion.

#### STOCKS FOR PEARS.

The great difference in growth and thriftiness of pear stocks, has not in our estimation been sufficiently regarded in cultivation. We have found that those varieties which are ordinarily poor growers when grafted upon the wilding, may be greatly promoted in their growth and thriftiness by being placed upon strong growers, such as the Bleeker's Meadow, Buffum, Harvard, and the old Green Chisel.

The Seckel, Princess of Orange, Long Green, and Andrews, are the reverse. The Bleeker's Meadow we have found a capital stock for those two excellent fall pears, the Fondante d'Automne and Beurré Bosc.

## BUDDING, OR INOCULATION.

*Budding* differs from *grafting* in this, that a portion of a stem is not made to strike root on another stem, but that, on the contrary, a bud is introduced beneath the bark of the stock, and there induced to strike root. Budding is commonly practised upon stone fruits, such as peaches, cherries, and plums; and, provided the stock is small, we think it preferable to grafting, for nearly all kinds of fruit. The object in budding is the same as in grafting, and depends on the same principle: all the difference between a bud and a scion is, that a bud is a shoot or scion in embryo. When grafting has been omitted, or has failed in spring, budding comes in as an auxiliary in summer. The season for performing this operation upon pears and apples is from the middle of July to the last of August; but upon stone fruits the month of September is early enough to perform this operation; for when these are budded too early, they are apt to shoot the same year, which shoots, being weakly, are either killed in the winter, or, if they escape the frost, they never make much progress. It is always better that the buds should remain dormant until spring, when they will shoot forth with vigor. The buds used are found in the axillæ of the leaf of the present year; the best buds are those on the middle of a young shoot, not those at the lower end. Stocks for budding may, in general, be much smaller than for grafting, as the operation may be performed on the same year's shoot. The French enumerate twenty-three varieties of budding; but the variety in general use with us is the following, called

shield or T budding. It is thus performed:— Select a smooth part of the stock; then with the budding-knife make a horizontal cut across the bark, quite through to the firm wood; from the middle of this transverse cut, make a slit downwards, an inch or more long, going also quite through to the wood; this done, proceed to cut out from the scion the bud, cutting nearly half way into the wood. We very rarely take out the wood from the bud, a method which we have always practised. Downing calls it the “American method.” There are precautions, as Lindley justly observes, in budding as in grafting. “It is indispensable that the bud which is employed should be fully formed, or what gardeners call *ripe*. If it is imperfectly formed or *unripe*, it may not be capable of that subsequent elongation upwards and downwards, upon which the whole success of the practice depends. Great care should be taken in raising the bark for the insertion of the bud, that the *cambium* be not disturbed or injured. This *cambium* is a secretion between the wood and the bark.” Seedling trees, which were budded in the summer, should in the following spring, when the bud commences pushing, be cut off slanting, to *within three inches of the bud*, and early in July be finished, or the snag cut smoothly to the bud or shoot. Budding generally succeeds best when performed in cloudy weather, or in the morning or evening; for the great power of the mid-day sun is apt to dry and shrink the cuttings and buds.

#### RAISING FRUIT TREES FROM SEEDS.

Pear trees for stocks are raised from seeds sown usually in the fall. The most successful ex-

periment in this method, which has come under our own observation, was that of Allen W. Dodge, Esq., of Hamilton, for which he received the first premium of the Essex Agricultural Society in 1843. The following was the method of culture:

"In the fall of 1840, I procured a lot of pumice of the small choke pears, which I sowed in drills, on a dry, sandy spot of ground. The seed came up well the following spring, and the trees made the first season an average growth of one foot. Being warned by others of the danger to which they would be exposed during winter, I was inclined to use some method to protect them. One advised to take them up, and keep them during the cold weather in the cellar; another proposed to cover them with sea-weed or tan; and a third suggested still another course of treatment. As I knew not which method to adopt, I determined to let them take their chance, and winter it out just as they stood. The result was, that no injury whatever befell them; not one tree was destroyed by the cold or frost, or by any other cause.

"The following spring I removed the trees into rows in the nursery, first taking off a part of the tap root. This I found to be of great length, nearly one third longer than the tree itself. This length of root may have kept the trees from being thrown out of the ground by the frost, which, as I am informed, is one principal cause of the destruction in winter of young pear trees. As they make but few lateral roots, they are of course more exposed to such an injury than other kinds of young trees. Now if the tap root strikes deep, it has the stronger hold upon the soil; and if it

reaches below the frost, it would seem to be entirely removed beyond its action. My soil being very light, the roots of the trees had no difficulty in extending to the length I have mentioned.

“Another benefit, as it seems to me, of a light, sandy soil, for young pear trees, is this, that being so porous, it is less retentive of moisture than stiff and strong soils, which is the kind of soils upon which pear trees are usually attempted to be raised. The wetter the soil, the greater would seem to be the action upon it of the frost. It would freeze and thaw, in early spring, with greater violence to the young roots; such soil would heave more than a dry one, and in heaving would at length throw the tree up by the roots, and expose it to the winds and weather.

“The season after being transplanted, the trees made a vigorous growth. The principal dressing which they received was ashes applied occasionally in small quantities and in its unspent state. In August of that season, the second of their growth, I budded about six hundred of the trees; the rest, not being of sufficient size for that purpose, were left unbudded. The ground upon which they then and have since stood, is similar to that in which the seed was originally sown, light and sandy; the trees have received no injury whatever from the winter or early spring. I am not aware that a single tree of the lot has ever been thrown up or killed by the frost, and they have never received any protection but from the hand of nature herself.

“My budded trees have made a fine growth the past season; averaging perhaps four feet, some reaching to nearly six feet in height. The trees

are healthy and vigorous, and prove most plainly that it is not necessary for us to import pear stocks from France, when they can be raised, as mine have been, at home."

Regarding the above successful experiment, we would say, that it is rare in this region for one year's seedling pears to withstand our winters unprotected. It is always most prudent to cover them with sea-weed or litter, or to take them up and store them in a cool and dry cellar, covering the roots with sand or gravel.

In raising peach trees from the stone, our method has been to expose the stones to the frosts of winter, and sow in the following spring. In the fall of 1841, we thus exposed half a bushel of stones to the frost, by placing them in a shallow hole in the ground, slightly covered with earth, where they remained until the spring; we then cracked them carefully, and sowed in rows on the 13th of April, 1842, in a light loamy soil. These grew well; and on the first week in September, of the same season, we budded nine hundred out of one thousand trees.

With young trees, it has been the practice of some to trim off the side shoots, which causes the trees to make a slender and weeping top; these side shoots should not be taken off, while the trees are young and growing thriftily; the trunk will not grow near as fast in circumference by divesting these of their leaves or side branches. Mr. Downing recommends to stop the side branches, when of moderate length, by pinching out the terminal bud. This is undoubtedly the best method.

## ON PRESERVING PEARS.

Upon the methods resorted to for keeping the finest kinds of pears, much has been written of late years. Summer fruits, those particularly which ripen upon the tree, require to be carefully gathered and placed in a well-ventilated and cool room. The autumn and winter fruit is preserved with more difficulty. It has been generally admitted, that our winter sorts should remain upon the trees as long as possible, requiring all the ripening our climate will afford, which is undoubtedly the case. It has been recently suggested, that our winter table pears should be gathered earlier than we have heretofore done it, from the fact that many varieties which were gathered in October, ripened better than those of the same kinds left upon the trees a month later. We found such to be the case with the "Lewis," and also with the "Bleeker's Meadow." The secret, we apprehend, is, however, not so much in their being thus early gathered, but that they were kept in a uniformly warmer temperature. The remark of T. A. Knight, the most practical pomologist of modern times, we think rational. He says, "In order to ripen our fine pears, they should be placed in a *dry and warm atmosphere.*"

A writer (Mr. Walker), in the January number of Hovey's Magazine, says: — "The specimens (pears) which were matured in a close desk, the temperature of the room being kept from sixty to seventy degrees of heat during the day, and fifty to fifty-five during the night, were all very much superior to those which matured in a room of lower temperature."

Much difference of opinion exists in regard to the necessity or advantage of sweating fruit, previous to its being packed. Some disapprove of the practice, remarking that the flavor is thereby considerably injured, and that the fruit does not keep so well; while others contend, and not without apparent reason, that, by getting rid of a portion of moisture, the fruit keeps better, and retains its natural flavor uninjured. More depends, we apprehend, upon the atmosphere of the room or cellar in which they are kept.

## THE APPLE.

Of all the fruit produced in our climate, comprising such an extensive variety, none is brought to so great perfection and with so little trouble, as the apple. The duration of the apple tree is supposed, by Knight, to be two hundred years. "The soil best adapted for the apple," says Rogers, "is that of a soft loam, containing some sand; a great depth is not requisite, eighteen to twenty inches being quite enough, provided it be on a dry subsoil. If the bottom soil is wet, the trees should be set shallow, and the ground drained. Apple trees do not thrive if the roots enter into a cold substratum."

Autumnal planting we prefer in light soil, and spring planting on those of a strong and wet nature. In forming a collection of fruits, it has been justly observed, that it is better to be contented with a few good kinds, which produce well in most seasons, than to plant those for the sake of variety, of which perhaps a crop may be obtained once in three or four years. The Secre-

tary of the London Horticultural Society, in speaking of the mania for increasing varieties, says, that their catalogue of apples "contains one thousand four hundred kinds, three fourths of which are probably the same fruits under different names, or are unworthy of cultivation."

In making a selection of apples, we should endeavor to fix upon those which are found to suit our latitude and soil. We have long observed that many varieties of apples, which are good bearers when grown in strong and rather moist soil, for example the Pickman Pippin, Williams's Favorite, Blue Permain, Roxbury Russet, Esopus Spitzenberg, and Ribstone Pippin, are generally poor bearers, upon a light sandy loam; while the Baldwin, Yellow Bellflower, Hubbardston Nonsuch, Danvers Winter Sweet, and Fall Harvey, grow and bear well upon a light soil; the Baldwin and Hubbardston Nonsuch seem to accommodate themselves to almost every variety of soil and situation. In a report which we gave in the Essex County Agricultural Transactions, some six years since, we there remarked that apples originating on any given soil will be better than most of those which are introduced into it. Many varieties of apples, which are first rate in quality when grown in our southern cities, — for example, the Newtown Pippin, and Pennock's Red Winter, are inferior to the Lyscom, Fall Harvey, and many others, when grown in our soil. Beecher, of Indianapolis, In., says, "The soil and climate so modify the flavor and other qualities of the apple, that there is some reason for believing that an apple, originating on any given soil, will be better than many which are introduced into it;

for though the apple is raised with great facility in almost every soil, yet it is probable that each variety affects a particular one. Thus I perceive the most popular apples of New England are natives; for example, the Rhode Island Greening, Hubbardston Nonsuch, Roxbury Russet, Baldwin, and Minister. This, to a considerable extent, is true of the West."

Attention should also be had in the selection of sorts, suitable to their destined soils; as some varieties that would succeed well in a strong clay, would languish in a poor, light, sandy loam. The Baldwin, Yellow Bellflower, and Swaar, flourish well in a light loamy soil; on the contrary, the Ribstone Pippin, Pickman Pippin, and Red Doctor, require that of a strong and retentive nature. In planting orchards, we should therefore have some regard to these circumstances.

The successful culture of the apple, says one of the best cultivators of this fruit, depends very much on the suitableness of the ground in which they are planted; the size and flavor of the fruit, the general health and duration of the trees, are most commonly the result of good or bad soil. Of all the different descriptions of soil to be met with, that of a soft hazel loam, containing a small portion of sand, seems to be the most congenial to the apple generally. In such a soil, the tree is sure to flourish longest, is most productive, and remains most free from disease, or attacks of insects. A great depth is not requisite; eighteen or twenty inches being quite enough, provided it be on a dry sub-soil. A wet bottom should be avoided, if possible; no kind of apple thriving long, if the roots once enter into such a cold sub-str-

tum. The cultivation of the apple upon dwarf stocks (our Crab makes a good stock for this purpose) is carried to a great extent in Guernsey and Jersey; these are grafted upon Paradise stocks; they produce fruit in three years, when not more than four or five feet in height, and about the same in diameter through the branches. In such cases, the ground is very properly given up entirely for this purpose; the trees being planted ten feet apart, and five feet distant, in the rows. A quarter of an acre planted in this way will contain two hundred and forty trees, the area of the surfaces of which, taken collectively, amounts to nearly as much as the whole ground. Mr. Rivers has long cultivated a selection of apples in a miniature orchard, and describes his mode of placing them in the following words: "By planting the proper sorts, apples may be grown in as small a space of ground as gooseberries. The trees are planted at six feet distance each way, in quincunx order."

#### APPLES.

*Early Harvest.*—This is the earliest apple worthy of cultivation: the form is flat, of medium size; the skin, when perfectly ripe, is of a beautifully bright straw color; the flesh tender and sprightly; if gathered before they are fully ripe, it has too much acidity. The finest fruits are those which drop ripe from the tree; the branches make very acute angles, by which it is readily distinguished from most other trees in the orchard; it bears young. Ripe in July and August.  
*M.*

*Early Bough.* — This is a large handsome apple, the form sometimes oblong, the skin a pale yellow, often with a bright red tinge, the flesh sweet and tender; it is a good bearer, and deserves extensive cultivation. Ripe in August. *M.*

[This is decidedly the finest early sweet apple of its season. It is called, in some parts of New England, "Washington."]

*American Red Juneating.* — This apple is of medium size, oblong; the skin is a beautiful red, slightly streaked and mixed with yellow; the flesh is rich, sprightly and good; the tree is of upright growth; it bears well and ripens in August. Although it bears the name of American Red Juneating, we have strong doubts of its having originated in this country; we think it may be the striped Juneating of Ronald. *M.*

*Summer Queen.* — A large oblong apple, striped with red on a yellow ground; the flesh is yellow, very high flavored, and excellent. The tree is of vigorous growth, and a great bearer. Ripe in August. *M.*

*Early Red Margaret.* — A middle-sized apple; the shape round, somewhat flat; the skin a greenish yellow, striped with dark red; the flesh white, juicy, and agreeable; it bears early and abundantly. Ripe the middle of August. *M.*

*Summer Rose.* — A very beautiful and excellent fruit; the size is moderate, the form round, the skin yellow, striped, and mottled with red; the flesh is sweet, juicy, and fine. Ripe in August. A great bearer. *M.*

*Summer Pearmain.* — This apple is of medium size; the form oblong and very regular; the skin a dark red, striped with a small proportion of yellow; the flesh very tender and good, juice not abundant. It is one of our finest summer apples; bears abundantly, and ripens in August and September. *M.*

*Fall Harvey.* — This is a large and handsome fruit; the shape flat, with broad ribs extending from the stem to the eye; the skin sometimes a clear bright yellow, but mostly a light yellow, occasionally with a bright red cheek; the flesh yellow, firm, rich and high flavored; it is much cultivated in Essex county, Mass., where it may have originated. It is, without question, the finest fall and early winter apple. A good bearer, and deserving extensive cultivation. *M.*

*Drap d'Or.* — A large flat apple, of a bright, but pale yellow color, covered all over with small black pips (never with a red cheek); the flesh is tender, very light and pleasant; the growth of the tree is large and spreading; it bears well, and should be found in every good collection. Ripe in September and October. This is the Drap d'Or of Cox and Ronald, but not of Duhamel. *M.*

[This fruit commands a high price in our market.]

*Hawthornden.* — This fruit is of medium size; of a flat and very regular form, and remarkably handsome; skin of a pale yellow, nearly white, with a brilliant red on the side exposed to the sun; the flesh white, very juicy, but not high flavored. It bears very young, and most abund-

antly, every year; it is one of the best market fruits in the fall and early winter months. *M.*

[This variety is cultivated in Pennsylvania, under the name of "Maiden's Blush," as well as in our neighborhood.

*Red Astracan.* — This beautiful apple is of medium size, of a round and rather flat form; the skin is dark red, covered with a thick bloom, like a plum; the flesh is white, tender, and good, somewhat acid; it keeps but a short time after being gathered; but the beauty of the fruit, and its early and great bearing, render it desirable in every collection, especially if intended for the market. Ripe in August. *M.*

*Benoni.* — This fine and beautiful apple was introduced to notice by E. M. Richards, Esq., of Dedham. It is of medium size, form round and regular, the flesh yellow, high flavored, and excellent. It bears well, ripens in July and August, and should be found in every good collection. *M.*

*Red Ingestrie.* — This apple is of medium size, of a round form; the skin bright yellow, tinged and striped with red on the side exposed to the sun; the flesh very rich, high flavored, and juicy. It bears well, and ripens in October. *M.*

*Franklin Golden Pippin.* — This apple is supposed to be of American origin; it is of middle size, the form oval and very regular; the skin of rather a dark yellow, without a blush, but sprinkled with dark-colored specks; the flesh yellow, tender, and very agreeable to the taste. The tree grows well, is of an upright form, and the fruit is ripe in October and November. *M.*

*Kerry Pippin.* — Fruit of medium size; the form oblong, flattened at the eye and stalk; the skin a bright yellow, striped and marbled with red; the flesh tender and high flavored. This is a most beautiful variety; it bears well, and ripens in September and October. *M.*

*Williams's Favorite Red.* — This apple originated in Roxbury, Mass. It is of medium size, oblong form, the skin a bright and deep red, the flavor pleasant and agreeable. It is a good bearer, and a most beautiful fruit, ripening in August. *M.*

[This tree requires a strong and rich soil. With us the fruit is small in comparison with those we have seen offered in the Boston market.]

*Kilham Hill.* — Originated on the farm of Doctor Kilham, in Wenham, Essex county, Mass. The size is sometimes large, the form round, a little oblong; the skin yellow, striped with red; the flesh is yellow and high flavored, but soon becomes dry; it bears young and constantly, and ripens from September to November. The tree is of a spreading, but not regular form, and may be known by small warts or protuberances on the bark. *M.*

[This fruit we should not recommend to cultivate largely for the markets, as it so soon decays after ripening.]

*Lyscom.* — This apple originated in Southboro', Mass. It is of medium size, rather oblong, and very regular; the skin dull red, with greenish yellow. The flesh is not high flavored, but of a peculiarly mild and agreeable taste. It bears well, ripens in October, and will sometimes keep till January. *M.*

[This apple is called "Osgood's Favorite," in Essex county, and "Mathis's Stripe," in Worcester county. It is a superior variety, particularly when grown in strong soil.]

*Porter.* — Originated on the farm of the Rev. Samuel Porter, in Sherburne, Mass. The fruit is sometimes large, the shape oblong, pointed at the blossom end; the skin of a bright yellow, often with a blush of red on the sunny side; the flesh fine, sprightly, and agreeable. It bears well, ripens in September and October, and is a most beautiful fruit, either for the market or private garden. *M.*

*Yellow Ingestrie.* — A beautiful apple, raised by Mr. Knight, President of the London Horticultural Society. The size is small, form round and regular; the skin of a golden yellow, with some black spots; the flesh yellow, firm, and delicate. It is an abundant bearer, and ripens in October. *M.*

*Gravenstein.* — Fruit large; the form for the most part oblong, sometimes flat; the skin of a light yellow, striped, and beautifully mottled with red; flesh very fine, with a brisk, high-flavored juice. This is one of the most valuable apples, ripening in October, and keeping good several months. The tree is of a strong and healthy growth and upright form. *M.*

*Ribstone Pippin.* — Fruit sometimes large, of a flat form; the skin is a mixture of russet and yellow, with dull red on the side exposed to the sun; the flesh very yellow and firm, with a sharp, rich flavor; the tree is of a spreading, but not very regular form; it bears well, and ripens in the fall and early winter months. *M.*

*Golden Russet.* — The origin of this apple is unknown ; it appears to have been first cultivated in Essex county, Mass. The fruit is of medium size, round, rather oblong, and of a regular form ; the skin is a smooth, yellow russet ; flesh remarkably tender, spicy, and high flavored. The tree is very upright and handsome in its growth ; bears abundantly ; and is a valuable fruit, ripening in October, November, and December. *M.*

*Blue Pearmain.* — This fruit is large, the form round, the skin red, striped and mottled with darker red, and covered with a bloom like a plum ; the flesh mild and agreeable. This is a most excellent variety. Ripe in October, and keeping till February. *M.*

*Fameusé.* — Fruit middle size ; of a flat form ; skin light yellow and green, mixed with pale red and dark red blotches on the side exposed to the sun ; flesh remarkably white, tender, juicy, and good. This is a very handsome apple. The tree bears well, and the fruit ripens from October to December. *M.*

*Menagere.* — This apple is said to be of German origin ; it is the largest apple we have seen ; the form flat, the shape like a large English turnip ; the skin of a light yellow ; the flesh pleasant, but more adapted to the kitchen than the dessert. It bears well, trained as a dwarf, and ripens from October to February. *M.*

*Rhode Island Greening.* — This is a well-known and favorite apple ; the size is large, the shape round, flat at the end ; the color, when ripe, a greenish yellow ; the flesh yellow, tender, juicy,

and rich. The growth of the tree is vigorous and spreading. It bears well, and ripens from November to February. *M.*

*Lovett Sweet.* — This apple originated on the farm of Mr. Lovett, of Beverly, Essex county, Mass. It is of medium size; the form round; the skin, when ripe, a light yellow; the flesh rich, sweet, and good. It is highly prized as a winter fruit. *M.*

*Lady Apple.* — The size is small, the form flat, the skin at maturity is a bright yellow, with a brilliant red cheek, and very smooth; the flesh white, breaking, mild and agreeable, but not high flavored. The beautiful appearance of this little apple renders it worthy of cultivation. The tree is of more upright growth than any other apple tree in the orchard; it grows to a large size before it produces fruit; it then bears well, and is in use from January till March. *M.*

*Bellflower.* — This is a large and beautiful apple. The form is very oblong, tapering to the eye; the skin a bright yellow, sometimes without any red, but for the most part the side exposed to the sun has a bright red cheek; the flesh is rich, tender, and sprightly; before perfectly ripe, it has too much acidity. It bears well, though not abundantly, every year, and ripens in October and keeps till February. It is a valuable market fruit. The growth of the tree is large and spreading; and, if not trained high, the branches will reach the ground when loaded with fruit. *M.*

[This variety fruits well in light soil. It is sometimes confounded with the "Monstrous Bellflower," an inferior sort.]

*Pennocks.* — This is a large apple; the form round, rather oblong; the skin a dull red, slightly streaked with yellow; the flesh yellow, sweet, and tender; good for the table, and excellent for baking. The tree grows to a large size, and forms an open, spreading head. It bears well every year, and is in use during the winter months. *M.*

[This variety, as well as the Newton Spitzenburg, are larger apples when grown South, than with us.]

*Baldwin.* — This fine apple, so well known in New England, hardly needs a description. It is of medium size, the form round, the skin mostly of a brilliant red, with some indistinct yellow streaks; in some situations a large proportion of yellow; the flesh is very fine, crisp, juicy and rich. It bears abundantly every other year, keeps well through the winter, and although so common, it will bear comparison with the finest of the new varieties. *M.*

[There is an apple cultivated to some extent in Essex county, resembling this variety in its growth, and also in its fruit, which can readily be distinguished from the true Baldwin by its flavor, and from the bloom which is upon the skin of the fruit, similar to the Blue Pearmain.]

*Murphy.* — This apple, in appearance, resembles the Blue Pearmain; the shape is more oblong, the size not so large; the skin light red, streaked and mottled with blotches of darker red; the flesh white, tender, and good. It is in use from November to February. Raised from seed by Mr. David Murphy, of Salem, Mass. *M.*

*Ortley Pippin.* — The size sometimes large, the form oblong; the skin, when ripe, a bright yellow, with a little red on the side next the sun;

the flesh yellow, breaking and high flavored, in this respect approaching to the taste of the Newton Pippin more than any other apple. The tree assumes a handsome, spreading form, bears well, and the fruit ripens from December to March. *M.*

*Newtown Spitzenburg.* — The size is large, the form round and regular, the skin a dark red, striped, streaked with shades of dull red; the flesh yellow, rich, and high flavored. A most beautiful and valuable apple. In perfection from October till February. *M.*

[This fine apple does not fruit well in our soil.]

*Swaar.* — This is a large apple, the form round, somewhat flat; the skin is very smooth, of a light yellowish green, without any red; the flesh is juicy and well flavored, but not rich. The tree is of spreading and vigorous growth; bears great crops. The fruit ripens from December to March. *M.*

[A constant bearer and handsome fruit, deserving extensive cultivation; being one of the finest eating apples, in February and March, we possess.]

*Danvers Winter Sweet.* — This apple is of medium size; the form a little oblong, tapering to the eye; the skin smooth, of a light yellow, sometimes with a tinge of red; the flesh firm, juicy, and sweet. The tree is a great bearer, of rapid growth, and is worthy of extensive cultivation. It is in use during the whole winter. *M.*

*Pickman Pippin.* — This apple is sometimes large, the form round, the skin a light yellow, spotted with black points; the flesh hard, juicy, and good for the table, and excellent for the

kitchen, having, when cooked, a most agreeable acid. The tree is of an upright growth, bears abundant crops, and the fruit ripens from December to March. *M.*

[In strong soil a great bearer. This sort and No. 27 we consider our two best cooking varieties.]

*Roxbury Russet.* — This apple is well known, and extensively cultivated in New England; it is of medium size, round, and flat at the ends; the skin of a fine yellow russet, often mixed with dull red; the flesh white, rich, and juicy, with a very pleasant acid. It bears well, and can be brought to market later in the spring than any other good table apple. *M.*

*Hubbardston Nonsuch.* — This apple is large, the form round, somewhat oblong; the skin is red, mixed with a small portion of yellow, streaked and blotched with dark red; the flesh yellow, juicy, and of excellent flavor. The tree is of vigorous growth, a great bearer, and worthy of extensive cultivation. In use from January to March. *M.*

[This variety, and the one following, we consider two of the finest late apples for New England culture, both being good bearers.]

*Minister.* — This fine apple originated in Rowley, Mass. The size is large, the form oblong like the Bellflower, tapering to the eye, with broad ridges the whole length of the fruit; the skin a light greenish yellow, striped with bright red, but the red seldom extends to the eye; flesh yellow, light, high flavored, and excellent. This is one of the very finest apples which New England has produced. It ripens from November to

February, and deserves a place in every collection of fruits, however small. This apple received its present name from the circumstance of the late Rev. Dr. Spring, of Newburyport, having purchased the first fruit brought to market. *M.*

[A great bearer annually, as well as a superior fruit.]

*Green Sweet.* — This apple is of small size, round, and rather flat; the skin at maturity is a dull green, approaching to yellow; the flesh very sweet and good. It is in use during the winter months, and can be brought to market later in the spring than any other sweet apple. Much cultivated in the north part of Essex county, Mass. *M.*

[This variety retains its juice longer in the spring than any sweet apple we possess]

*Bevan's Favorite.* — This is one of the earliest and finest apples of New Jersey, supposed to have originated there; the size is medium; form somewhat flat; color yellow, striped with red; flesh juicy; a great bearer; ripening in July.

*Superb Sweet.* — A large-sized superior sweet fruit; form rather flat; color red, striped; ripening in September and October; raised from seed by Jacob Dean, of Mansfield, Mass.

*Strawberry Apple.* — This variety originated in New Jersey; it is an early winter fruit; will keep into spring; color bright red, striped upon a light orange brown; flesh juicy, and peculiarly agreeable.

*Ramsdel's Red Pumpkin Sweet.* — This fruit is of good size; of a dark red, covered with a

blue bloom, similar to the Winter Blue Pearmain; the flesh is tender and sweet. This tree bears abundantly. It ripens in the fall, and will keep into January. This apple was brought into notice by Mr. Ramsdel, of Connecticut.

*Rambo, or Romanite.* — This apple is much cultivated in Pennsylvania; the form is flat; the size medium; the skin a pale yellow, with red streaks towards the sun; flesh tender and sprightly; and is a fine table apple, ripening in the fall, and keeping for several months; a great bearer in alternate years. This apple is known by the name of Seek-no-farther, in the Philadelphia market.

*Cann Apple.* — This apple, cultivated in West Jersey, takes its name from the peculiarity of its shape. In form it approaches to a cone; the size is medium; color green, with a brownish red near the stem; it is a very sweet fruit, approaching nearer, in this respect, to the Danvers Winter Sweet than any variety we have seen. It is an early winter fruit, and is a good bearer in alternate years.

[This apple is cultivated by some, under the name of Seaver's Sweet.]

*Northern Spy.* — This new native fruit, originated near Rochester, N. York. It is a fine winter apple, and is one of the most popular fruits in New York. Fruit large, yellow, juicy, with a rich sprightly flavor. The tree is of an upright growth, and bears well.

*Quince Apple.* — The tree of this variety is of vigorous growth; the size of the fruit large; the

shape flat; the skin, when fully ripe, of a rich lemon yellow; flesh rich and juicy; it is a great bearer in alternate years, and is one of the very best fall apples we possess, ripening in November. Coxe says that it came originally from the State of New York.

*Michael Henry Pippin.* — This variety (supposed to have originated in New Jersey) with us is a medium size and fair apple, of a handsome oblong shape; color when ripe, a light lemon yellow; the flesh is sweet, ripening in November, but keeping well throughout the whole winter into spring. Bears well, not greatly, every year.

*Aunt Hannah.* — A fine winter fruit, produced on the farm of Deacon Francis Peabody, of Middleton, Massachusetts. In eating from December to March; of a rich Newtown Pippin flavor. The tree assumes a handsome upright growth, with the fruit well dispersed over the tree, rarely in clusters; a good bearer; size medium; form roundish ovate, basin moderately depressed; straw color when ripe, flesh light orange. We consider this to be one of the best eating winter apples of New England.

*Maiden's Blush.* — This apple is often confounded with the Hawthornden. I found this fruit at Albany early last fall in eating; and it was decidedly superior to that variety, and earlier in ripening; in color and general appearance it resembles the Hawthornden.

*Jonathan.* — This winter fruit was considered by the late Judge Buel, who first described and

brought it into notice, as one of the very best apples he had ever seen.. He informed me that it was a thrifty growing and productive variety, equal in flavor to any other sort of the season fruit of medium size, keeping into the spring.

*Lyman's Large Summer.* — Having never cultivated this apple, we are indebted to Mr. Downing for this description: —

“A large and handsome American fruit introduced to notice by S. Lyman, of Manchester, Conn. The bearing trees are easily recognised by their long and drooping branches, which are almost wholly without fruit spurs, but bear in clusters at their extremities. They bear poorly until the tree attains a considerable size, when it yields excellent crops. Fruit quite large, roundish, flattened at the ends; skin smooth, pale yellow; flesh yellow, tender, sub-acid, rich, and high flavored and excellent, either for the table, or for cooking. Ripe last of August.”

*Pine Apple Russet.* — This variety, not as yet cultivated to any extent in this country, is a fruit, according to Lindley, of high character. He says, “Fruit above medium size, flesh yellow, crisp, very short and tender. Juice more abundant than in any apple I have ever met with, as it generally runs very copiously as soon as cut open; saccharine, with that just proportion of acid which characterizes our most valuable fruits; and of a spicy aromatic flavor, with a high perfume. In eating from the end of September to the middle of October.”

*Jewett's Fine Red.* — This apple originated in Hollis, N. H. ; was first brought into notice by the Editor of the "Boston Cultivator," S. W. Cole, Esq. It is a fine fruit, of medium size, form rather flat, color dark red, flavor sub-acid, flesh tender. It is among the best native apples of our country. In eating from October to December.

*Golden Ball.* — This fruit was also brought forward by Mr. Cole. It is of large size, form roundish, stem short, color bright yellow, with occasionally a blush on one side; the flesh is mild, sub-acid, crisp, juicy, and of fine flavor; ripens late in the fall, a good grower, but medium bearer. It is a fine apple for cooking, as well as for the table.

*A selection of sixteen sorts of apples for a garden.* — Early Harvest, Early Sweet Bough, Summer Rose, Maiden's Blush, Aunt Hannah, Minister, Swaar, Roxbury Russet, Fall Harvey, Green Sweet, Porter, Gravenstein, Hubbardston Nonsuch, Lyscom, Baldwin, Danvers Winter Sweet.

*A selection of nine sorts for a small garden.* — Early Harvest, Early Sweet Bough, Minister, Swaar, Fall Harvey, Porter, Baldwin, Danvers Winter Sweet, Gravenstein.

#### THE PEAR.

The pear was probably held in higher estimation by the ancients than the apple, as Pliny enumerated a greater number. It is a much more hardy and durable tree than the apple, and, al-

though longer in coming into a fruit-bearing state, will exist for centuries, in health and vigor. The pear is propagated by seeds, with a view to obtain new varieties, or for the purpose of stocks on which to graft or bud known or approved kinds. Doctor Van Mons, and M. Duquesne, possess eight hundred approved sorts, which they obtained from seeds, within sixteen years. Pears, however, are more uncertain from seed, than apples; for by far the greater number thus raised are unfit for any other use than to be budded with known sorts. New varieties, says Van Mons, are *more* likely to be obtained from the seeds of new, than of old cultivated sorts. Among the extended varieties of this fruit, it is rather difficult (under all circumstances) to select those which are the best for cultivation. We have, however, ventured to admit into our list of *outlines*, those which, from observation and the opinion of friends, as well as our own limited experience, we could safely recommend as among the best. In raising seedling pears, the ground should be enriched with well-rotted manure (vegetable decomposition, such as rotten leaves, bark, &c., we think the best, mixed with a portion of air-slacked lime); the earth should be occasionally stirred between the rows, and all weeds eradicated. (See the article on raising trees from seed.)

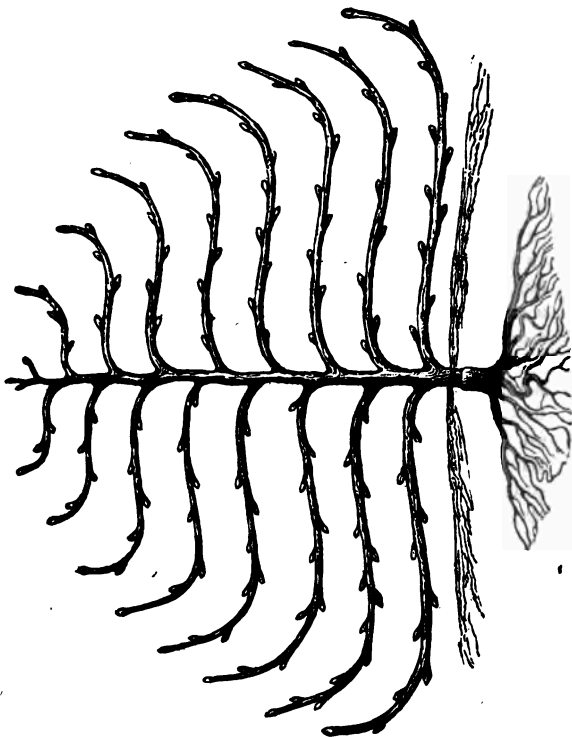
Small stocks, measuring from a half to an inch through at the but, should be budded, rather than grafted. The best and most durable stock for standards is the wilding; the quince and white thorn, for dwarfs. There are some pears which do not thrive well upon the quince, *directly*. Our method with such has been to graft those sorts

that grow well upon the quince, and in the following season re-grafting on these the kinds that do not flourish when placed directly upon this stock. This process of double grafting may be advantageously employed also in bringing pears earlier into fruit. In the spring of 1840, we inserted a graft of the "Cabot" into a dwarf stock, which was but one inch through at the but; and, in the fall of 1841, it bore from twelve to fifteen pears.

The effect of double grafting, says Lindley, "is similar to ringing the branches: the obstruction that the sap meets with, in passing through the two places of union, would be tantamount to the limited supply of sap permitted to ascend where a portion of the bark is removed." The quince stock brings the pear into early fruiting, and some varieties are larger upon this stock; still, where a permanent orchard is wanted, we should recommend the natural, or wilding pear. Pears worked upon the white thorn, are said to do better where the soil is a strong clay, than upon the quince. Pears have been grown in Europe upon the mountain ash. We budded twelve small trees of this sort with the Bartlett and Seckel, in the fall of 1840. A shoot of the ash was permitted to grow in connection with the pear, for the first season. In the spring of the following year, the first shoot (the ash) was then cut off close to the main stem. These trees have made quite as good a growth as upon pear stocks.

Hornsby says, "that where the apple and pear would not previously fruit, the soil poor and shallow upon rock, its effect is to retard the blossom, and give vigor to the constitution. Flesh and fla-

vor of the fruit not affected. Budding and grafting alike successful, on old or young stocks ; care to be taken to remove *none* of the young shoots of



[This cut of a dwarf tree is intended to show the position of the quince stock, when grafted or budded with the pear one inch below the surface of the soil.]

the ash the first season after working." The London Horticultural Society tried the above, and reported: "That the fruit was produced at an earlier age, of good size; the trees did not seem as if they would be long-lived, owing to the unequal swelling of the respective species. The pear increased in diameter more rapidly than the ash; but as the latter is more hardy than the quince, and will thrive in almost any soil, it might be used advantageously in some situations." M. Floss, a Prussian gardener, grows pears on sandy soils, by grafting them on this stock.

The distance at which pear trees should be set, in the orchard or garden, depends in some measure upon the soil and aspect; but thirty feet is about the maximum distance in the best soils, and from eight to ten feet, when grown upon the quince or thorn. Trees engrafted or budded upon the quince, should be done as near the root as possible. This budding, which we prefer to grafting, is performed when the bark will separate *entirely* from the wood, which, in this latitude, takes place in August, and sometimes in September. The following spring, when the bud is developing, cut off the stock to *within two joints of the bud*, and not until midsummer finish, or cut the snag smoothly to the shoot. At the third season, the trees may be removed to the situation for fruiting; and in resetting them, the stock should be placed at least *one inch below the insertion of the bud*, as shown in the preceding cut of a trained tree.

Thus, setting the stock below the bud or scion will preserve them from the frosts of winter, and the borer in midsummer. In order to obtain fruit early upon dwarf pears, the side shoots or spurs

should be suffered to remain upon the whole extent of the tree, as they will then ordinarily form fruit buds upon each spur.

These trees are admirably adapted for small gardens, occupying but little space, less exposed to high winds; thus affording greater security to heavy fruit. One of the new Flemish pears, the "Duchess d' Angouleme," when grown as a dwarf, produces larger fruit than when upon a wilding. When pears are worked upon the wild species, apples upon crabs, and peaches upon peaches, the scion is, in regard to fertility, says Lindley, "exactly in the same state as if it had not been grafted at all; while, on the other hand, a great increase of fertility is the result of grafting pears upon quinces, peaches upon plums, apples upon the thorn, and the like. In these cases, the food absorbed from the earth, by the root of the stock, is communicated slowly." No other influence have we ever noticed exercised by the scion upon the stock.

Deep soils are not necessary for the pear; from eighteen to twenty-four inches are quite sufficient. Pruning is not often wanted in the culture of this fruit as a standard. Some few kinds there are that resemble the apple in their growth, that require cutting to keep them from superfluous branches; those particularly of pendant or weeping habit. This tree, under good management and in favorable soils, may be continued in health and vigor for a greater length of time than almost any other fruit-bearing tree. When the pear tree grows too luxuriantly, and consequently unproductive, pruning the roots, or bending the branches downwards (the latter course we prefer),

will generally check its luxuriant growth, and throw it into a bearing state. The pear being a more hardy tree than the apple, is less liable to the attacks of insects. The most annoying, however, is a species of coccus or miniature tortoise, which attaches itself to the bark. This insect is common to the apple in some gardens. Our method of destroying them is to wash the bark with a strong solution of whale-oil, soap, and water; applying it with a stiff brush. Young trees are sometimes almost wholly incrustated with this coccus.

*A Selection of twenty-nine Varieties of Pears we would recommend for a garden.*

Madaineine, Bloodgood, Dearborn's Seedling, Rostkner, Muscadine,	} SUMMER FRUIT.	Beurré d'Arenberg, Winter Nellis, Lewis, Columbia, Vicar of Winkfield, Passe Colmar,	} WINT. FRUIT.
Bartlett, Belle Lucrative, Flemish Beauty, Beurré Bosc, Paradise d'Automne, Bess de la Motte, Bess de Montigny, Seckel, Cushing, Andrews, Bon Chrétien Fondante, Washington, Golden Beurré of Bilboa, Louise Bonne de Jersey,	} AUTUMN FRUIT.	Black Pear of Worcester, Hunt's Connecticut, Catillac, Prince's St. Germaine,	} COOK'S FRUIT

*List of fourteen Varieties, for a small garden.*

Madaineine, Bloodgood, Rostkner,	} SUMMER FRUIT.	Winter Nellis, Passe Colmar, Lewis,	} WINTER FRUIT.
Bartlett, Belle Lucrative, Flemish Beauty, Beurré Bosc, Paradise d'Automne, Seckel,	} AUTUMN FRUIT.	Black Pear of Worcester, Hunt's Connecticut,	} COOK- ING FRUIT

*List of eight kinds for a smaller garden.*

Madaleine,	} SUMMER FRUIT.	Winter Nellis,	} WINTER FRUIT.
Bloodgood,		Lewis,	
Bartlett,	} AUTUMN FRUIT.	Black Pear of Worces-	} COOKING FRUIT.
Belle Lucrative,		ter,	
Beurré Bosc,			

The best four varieties, according to our estimation, are the Bloodgood, Bartlett, Belle Lucrative, and Winter Nellis. Among the kinds described in this manual, which are profitable for market culture, are the Madaleine, Bartlett, Buffum, Bezi d'Montigny, Andrews, Lewis, Cushing, Winter Nellis, Black Pear of Worcester, Vicar of Winkfield, Washington, Bezi de la Motte, Harvard, Flemish Beauty, and Napoleon.

*Amire Joannet.* — This fruit is small, form oblong; the skin, when ripe, is light yellow, with a small portion of red; the flesh white, and, when not overripe, juicy and good. It ripens in July, about ten days before the Petit Muscat, to which it is superior in size and flavor. The head of the tree is open, with a few long and hanging branches. *M.*

*Petit Muscat.* — This pear ripens immediately after the above; the size is small, the form round, a little oblong, the skin mostly of a clear yellow, with a little dull red; the flesh pleasant and musky, without being high flavored. The tree grows to a large size, with long and hanging limbs, producing its fruit in clusters, and most abundantly. *M.*

*Madaleine.* — This is the first good pear which ripens immediately following the Petit Muscat. The size is rather small; in rich land they grow

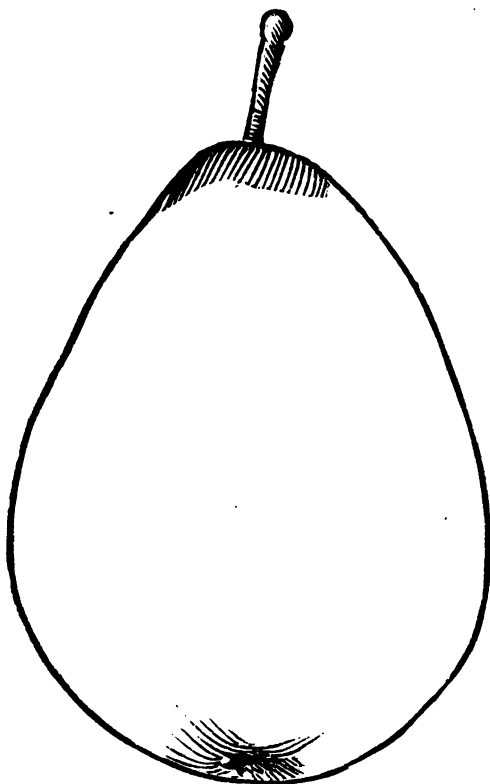
large; the skin, when ripe, is light green, approaching to a yellow; sometimes a tinge of dull red on the side exposed to the sun; the flesh white, juicy, and pleasant, with a most agreeable acid. Ripe the end of July and first part of August; it bears well every year, and, from its open head, requires but little pruning. *M.*

[Mr. Prince, of Long Island, says, that "this variety is subject to blight (the tree, *not the fruit*). This fact would seem to strengthen the opinion, that such attacks are connected with vigor of growth and profusion of sap, which are particular characteristics of this tree."]

*Rousselet Hatif.* — This is a small pear, with a long curved neck; the stem is long and fleshy, in most cases appearing to be a continuation of the fruit; the skin yellow, with brownish russet on the side next the sun; the flesh very fine, rich and high flavored, when eaten ripe from the tree; the branches are long, the head of the tree very open, and the produce most extraordinary. It ripens about the middle of August. *M.*

*Williams's Bon Chrétien.* — (Bartlett). This fruit is very large; the shape long, round and full, both at the eye and stem, which is short and large; the skin, when fully ripe, yellow, with faint red next the sun; flesh white, melting, and good. The character of this pear is very high; the tree is of a strong and vigorous growth, bears very young, and yields most extraordinary crops every year. Ripe in August and September. *M.*

[This fruit has the remarkable quality of ripening in the house, when not fully grown, and is unquestionably the best pear for general cultivation, bearing good crops annually. If we could have but two sorts, the Bartlett should be one.]



*Bloodgood.* — This pear was first brought into notice by the late James Bloodgood, of Flushing, Long Island; the size is large, the form nearly oval, the skin a dull yellow, covered with dark

russet spots ; the flesh tender, melting, and pleasant. It comes very early into bearing, and produces abundant crops every year. Ripe in August. *M.*

[This pear we consider the best of its season.]

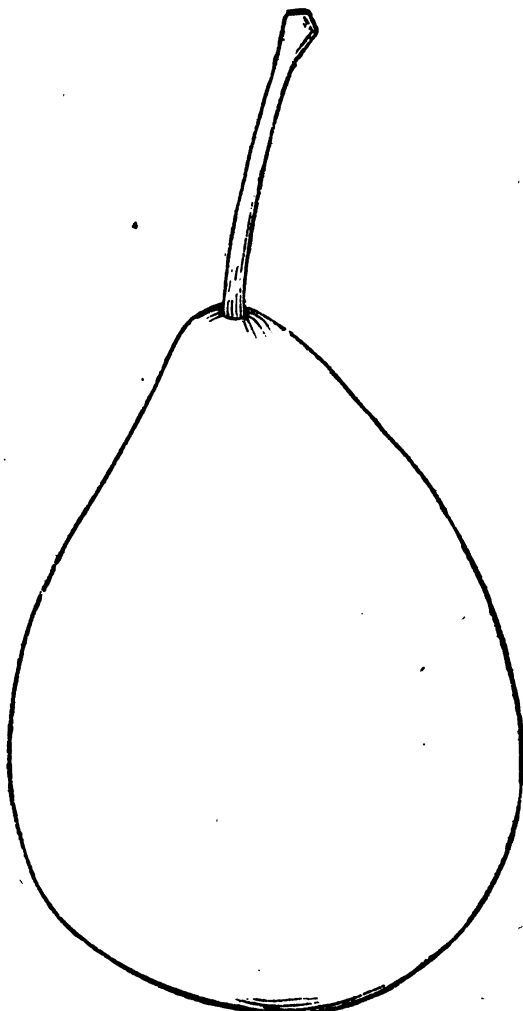
*Summer Frankreal.* — This very fine pear is of medium size ; the shape oblong, thickest about one third from the eye, sometimes flat like a Bergamot. The skin, when fully ripe, a light yellow ; flesh melting, rich, and excellent. It is a great and early bearer, ripening in September. *M.*

[This pear we consider inferior to the Muscadine, a variety ripening about the same time.]

*Dearborn's Seedling.* — This fine and beautiful pear originated at Brinley Place, Roxbury, the seat of the Hon. H. A. S. Dearborn. The fruit is of medium size, round at the crown, diminishing to the stem, around which is a circle of bright russet ; the skin is smooth, of a light yellow color ; the flesh delicate, melting, and fine flavored, equal to any other pear of the same season. The growth of the tree is healthy and vigorous. It bears well, and the fruit ripens in August and September. *M.*

[This fruit is always better when ripened in the house.]

*Summer Thorn.* — This pear is oblong, of medium size, the skin smooth, and, when ripe, of a light green ; the flesh melting, juicy, and of a very peculiarly pleasant flavor. It bears well, and ripens in September. *M.*



Andrews.

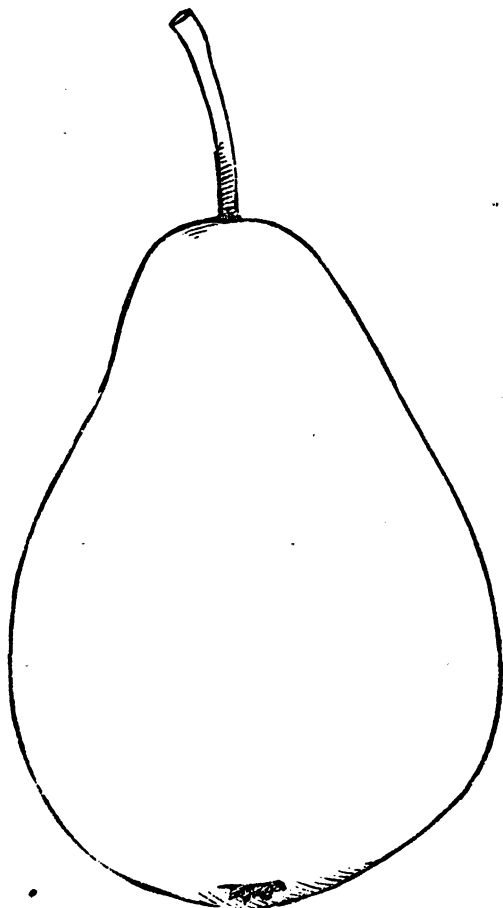
*Andrews.* — This fruit sometimes attains a large size; the form is oblong, tapering gently from the blossom end to the stem; the skin, when at maturity, is a yellowish green, often with a dull red cheek; the flesh melting, juicy, and high flavored; it is a most valuable pear, producing its fruit early and abundantly. The tree is not of very vigorous growth. Ripe in September and October. *M.*

*St. Ghislain.* — This superior pear is one of the new Flemish varieties; it is of medium size, the shape rather oblong; the skin at maturity is a pale yellow; the flesh juicy, melting, and very delicious. The tree is vigorous, and bears good crops every year. One of the finest of pears, and should be found in every good collection. Ripens in September and October. *M.*

[We believe this tree requires a strong and rather moist soil, as with us it is a poor bearer, and the fruit acid with some astringency. We have eaten it, however, raised upon soil of the above description, and found it an exceedingly highly flavored and sprightly pear.]

*Johonnot.* — Originated in the garden of the late George S. Jhonnot, Esq. of Salem. The fruit is of medium size, of a roundish and very unequal form; a little extended, the skin thin, the color a dull yellow, with a large portion of dull brown and indistinct russet; the flesh is very fine, melting, and delicious. The tree is not vigorous; it bears well, and is in perfection from the middle of September to the middle of October. *M.*

[This pear is not a good grower or bearer with us. In some situations and soils, it is a fine melting fruit and good bearer.]



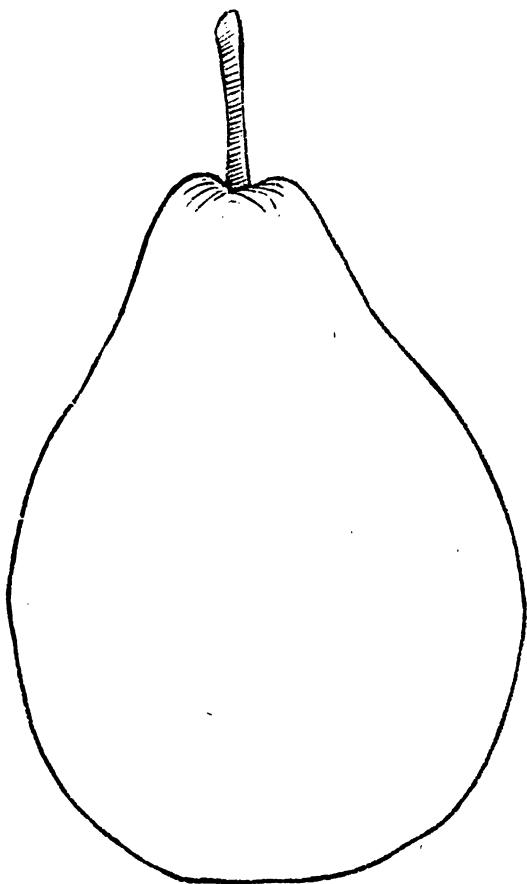
Urbaniste.

*Urbaniste.* — One of the new Flemish pears; the size and form is somewhat like the St. Michael, round and full at the eye, diminishing gradually to an obtuse point at the stem, which is inserted in a shallow round cavity; skin light green, nearly yellow, with small spots of dull russet; flesh white, melting, and fine. The tree is of handsome form, and grows vigorously; does not bear young, but is productive after it has attained a proper size. Of all the new European pears, this is the best substitute for the old favorite St. Michael's. Ripe in October and November. *M.*

[This sort is not productive on our soil; we prefer the *Beurré Romaine*? (*Bezi d'Montigny*,) a great bearer, and the fruit always fair; the flavor quite as good.]

*Seckel.* — This well-known and excellent pear is of small size on poor land; the form is regular, round at the blossom end, diminishing gradually to an obtuse point at the stem; the skin often yellow, with a brownish red cheek, sometimes entirely covered with greenish russet; the flesh melting, and of most exquisite flavor; the growth of the tree is slow, with great and unusual symmetry. It produces abundant crops; but, in order to obtain fruit of large size, the ground should be rich, and the tree pruned with a more open head than is generally thought necessary. Ripens gradually in the house, from the middle of September to the last of October. *M.*

[Pear trees seldom thrive when budded upon the apple; this sort does better than any other we have tried. The *Seckel* rarely, if ever, suffers from blight; the tree making short-jointed shoots, and ripening them early.]



Cushing.

*Cushing.*—A native fruit from Hingham, Mass. The size in rich ground is large; the form oblong, diminishing from the eye to an obtuse point at the stem; the skin, when ripe, smooth, of a light yellow, sometimes with dull red on the side exposed to the sun; the flesh white, melting, sprightly, and good. It comes early into bearing, produces well, and the fruit ripens the last of September. *M.*

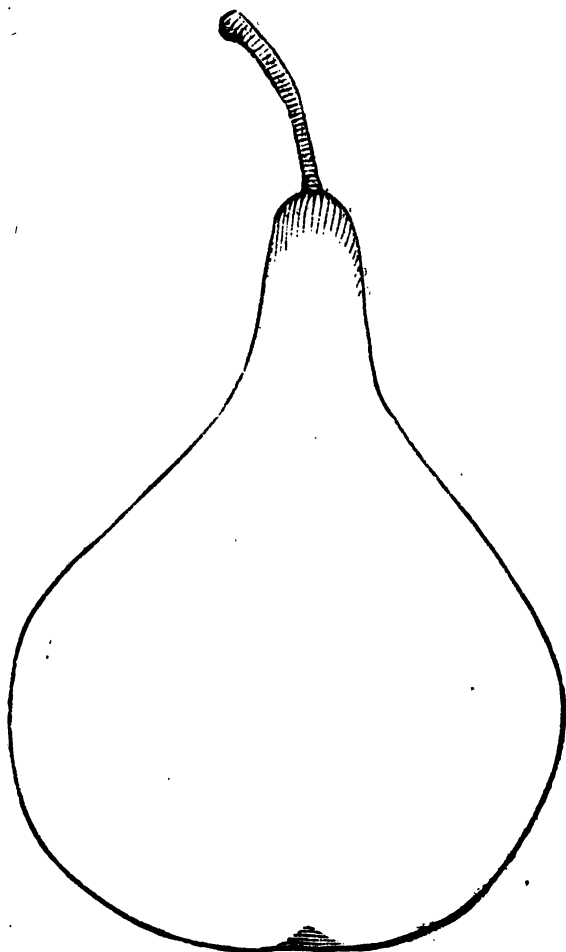
[This pear is, in our soil, nearly, if not quite, equal to the Bartlett in flavor.]

*Heathcote.*—This native pear is large on rich land; the form is long, round at the blossom end, and full at the stalk; the skin almost always of a light yellow, seldom a tinge of red; the flesh melting, rich, and well flavored. The growth of the tree is handsome and vigorous. It produces abundant crops, and ripens in September and October. *M.*

[This pear, which has, previous to the season of 1846, been considered second-rate, was this fall very melting and delicious, in almost every locality.]

*Raymond.*—A new fruit, which originated on the farm of Dr. Joseph Wight, of Raymond, Me. It is sometimes large, but generally of a medium size, the shape of the St. Michael's; the skin yellow, with some dull red and russet on the side exposed to the sun; the flesh melting, rich, and high flavored, equal to any pear of the same season. The tree is slow and crooked in its growth, but produces well, and the fruit ripens in September and October. *M.*

[This fruit is small in our soil; and the tree a bad grower.]



Beurré Bosc.

*Beurré Bosc.* — One of the new Flemish pears; the form is very long, the skin of a light cinnamon russet; the flesh white, juicy, melting, and good. It bears abundantly, and ripens in October and November. *M.*

[This most delicious pear is ordinarily a shy bearer, particularly upon the Pear root; better, however, on the Quince. It is one of the most melting and white-fleshed pears we cultivate; every good collection should contain it.

Downing says, that "year after year the *Beurré Bosc* proves equally deserving of praise."]

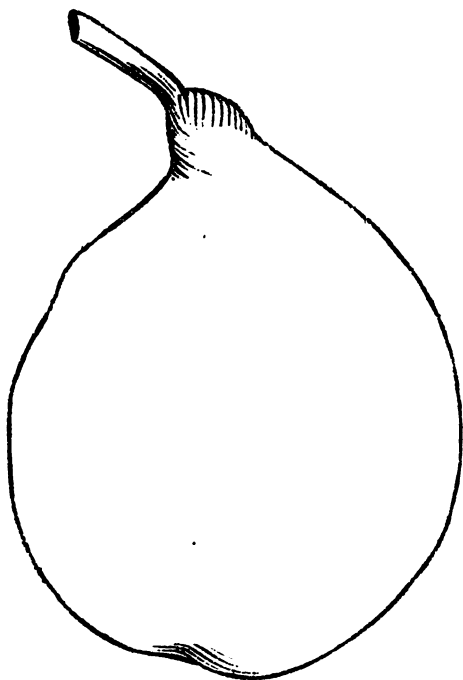
*Long Green.* — This is one of the best of the old varieties; its form is very long; skin at maturity a light green; the flesh is white, melting, and fine flavored. The tree is of vigorous growth, bears well, and the fruit ripens in September and October. *M.*

[This is one of the few old varieties that have not as yet shown any signs of decay.]

*Henry Fourth.* — This pear is of small size, the form very irregular, oblong; the skin of a dull yellow, mixed with brown and green; flesh yellow, gritty, juicy, and melting, with a high and somewhat remarkable flavor. It bears young and abundantly, and ripens in September. *M.*

[This is a high-flavored and rich fruit; size rather below medium, averaging, however, larger than the *Seckel*.]

*Buffum.* — This pear originated in Rhode Island; medium size, the form nearly oval; the skin yellow, mixed with russet and brownish red next the sun; the flesh melting and good, but not first-rate. The tree is very upright and strong in its growth; a great bearer, and an excellent market fruit. Ripe in September. *M.*



*Belle Lucrative.*—The tree which produces this fine fruit was received from the Messrs. Young, of Epsom, England. The size is large, the form round at the blossom end, tapering gradually to the stem; the skin, when ripe, is a pale yellow, sometimes with a little dull red next the sun; the flesh is melting, sweet, juicy, and fine flavored. It bears well, ripens in September and October,

and is worthy of a place among the choicest selections. *M.*

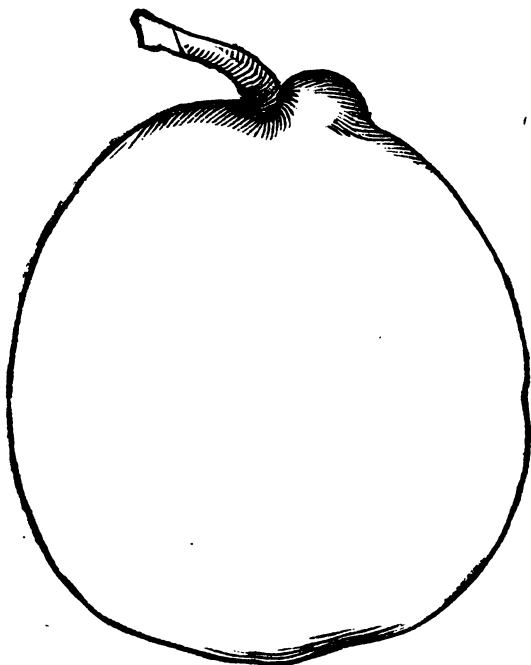
[This fruit, the *Fondante d'Automne* of the London Catalogue, is in our soil truly delicious. We accord with Downing, that, "if we were asked which are the two highest flavored (we should say *best*, instead of *highest*) pears known in this country, we should not hesitate to name the Seckel and the *Fondante d'Automne*." This fruit is higher flavored when grown in a warm and rather light soil, than upon that of a rich heavy loam.]

*Duchesse d'Angouleme*. — One of the new European pears; the size is very large, oblong, round at the blossom ends, tapering gradually to an obtuse point at the stem, with a knobby and uneven surface; the skin greenish yellow, spotted with small russet points; the flesh very rich, melting, and high flavored. It is a good pear on standards in rich ground, larger and better on the quince, trained low; it is very productive. Ripe in October and November. *M.*

[This variety we consider better adapted for the quince, than pear root, as upon the former it grows larger, and bears well; while upon the latter, it is an uncertain bearer. We find this to be the case in our soil.]

*Rostiezer*. — This tree was received from the Messrs. Baumans, of Bollwiller. The fruit is of medium size, oblong, and pointed at the stem; the skin covered with light yellow russet; the flesh melting, high flavored, and delicious. It ripens about the first of October; and, so far as we could judge from the first specimens, is decidedly a first rate fruit. *M.*

[This fine-flavored fruit resembles the Seckel in taste. The tree makes a good growth of long dark, colored shoots.]



*Surpass Virgalieu.* — This tree was received from the late Mr. Parmentier, of Brooklyn, L. I. As we do not find the name in any European author, it was probably adopted in this country. The fruit is large, form oblong, some specimens nearly round; the skin smooth, of a light yellow, with a little red on the side next the sun; the flesh rich, juicy, and high flavored. It appears to

require a warm sun to have it in its greatest perfection; it bears young, yields large crops of fair fruit every year, and is worthy of extensive cultivation. Ripe in October. *M.*

[Fine specimens of this pear are annually produced in the sheltered gardens in Salem. We have not as yet grown it; but, from observation, we are inclined to believe that, like Gansels Bergamot, it would not answer in open exposures in the country, not fruiting well in such situations.]

*Washington.* — A native fruit from New Jersey, of medium size; the form is nearly oval; the skin of a light yellow, covered with small brown spots, sometimes a slight tinge of red; the flesh melting and excellent, with an unusual flavor. The tree grows vigorously, bears well, and the fruit ripens in September. A beautiful and good pear, worthy of cultivation. *M.*

*Princess of Orange.* — One of the new Flemish pears. In size and form this fruit resembles the St. Michael's; the skin is an orange russet, mixed with dull red; the flesh white, melting, and good, but not first rate. Ripe in October. The scions of this pear were originally received from the London Horticultural Society; but a distinguished cultivator from Belgium thinks it cannot be the Princess of Orange of Van Mons. *M.*

[This pear has been astringent in flavor with us for years; and we have accordingly regrafted the tree. We hear that in some situations around Boston, they consider it good, although not first rate.]

*Gansels Bergamot.* — This has been placed among the old pears; it is only comparatively so, having been raised in 1768; as yet, it shows no

indications of decay, such as we see in many of the finest old pears. It has the reputation of being a bad bearer; but, in the gardens in Salem, it produces good crops. The fruit is of medium size, the form nearly round, the color a dull brown; flesh white, melting, and fine flavored. Ripe in October. *M.*

[This superior pear flourishes well in the sheltered gardens of Salem, as said by Mr. Manning; but in the country, we are inclined to consider it hardly worthy of cultivation. The English cultivators say of this fruit: "It does not bear well as a standard, but affords a tolerably certain crop when trained in an espalier form."]

*Cabot.* — This pear was produced from seed by Joseph S. Cabot, Esq., of Salem. The original tree, after producing the first specimen of fruit, was destroyed by the cold winter of 1831. We were so fortunate as to preserve a scion, from which we obtained fruit the last season, 1837. It is of medium size, of a round form, a little extended; the skin a light yellow russet, with a small portion of brownish red; the flesh white, melting, and fine flavored. It is decidedly a first-rate fruit, and worthy of extensive cultivation. The tree is of a strong and healthy growth, bears well, and is in perfection during the whole month of October. *M.*

[This fruit varies so much in quality in different seasons, that we consider it not worthy of extensive cultivation, having raised it for five years past, and not until the season of 1846, could it be considered a fine pear.]

*Bon Chrétien Fondante.* — This is one of the new Flemish pears; fruit rather large; form regular, oval; the skin a yellowish green, mixed with brown and yellow specks; the flesh yellow,

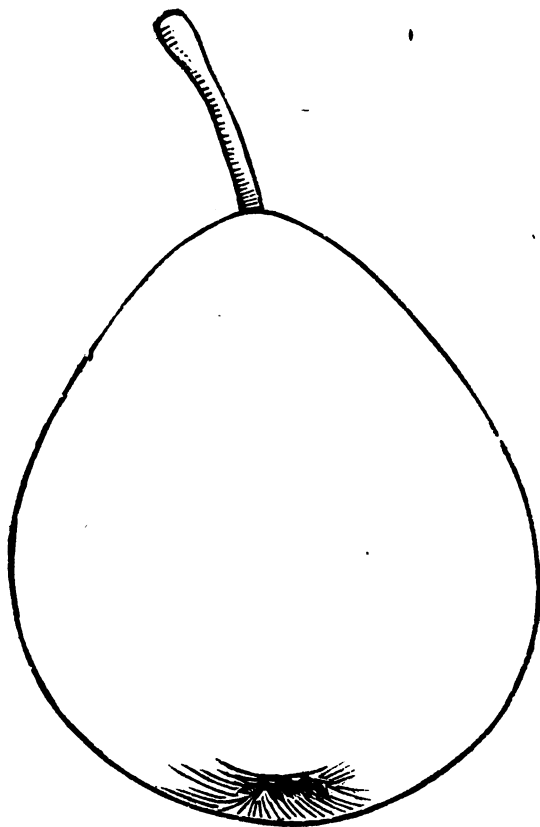
rich, and melting. The tree produced fruit the first time, the last season, 1837, and promises to be a first-rate fruit. Ripe in October. *M.*

[This sort has proved with us to be a fine, melting, and delicious fruit. The tree makes a handsome growth, shoots and leaves resembling the "Flemish Beauty."]

*Louise Bonne de Jersey.* — Fruit large, oblong, pear-shape; skin yellowish green, mixed with brownish red next the sun; the flesh melting, rich, and good. It produced its first fruit the last season, and gives every indication of being a first-rate pear, and good bearer. Ripe in September and October. *M.*

[There are various opinions regarding the merit of this pear. It is unquestionably a fine fruit, great bearer, and considered in Europe, as well as by most of our experienced growers, worthy of extensive cultivation. There are those who complain of its small fruit, wanting in flavor, or else acid and astringent. We have raised it upon the quince, and found it to bear fine fruit. It is in our estimation, however, inferior in flavor to the Andrews, a native variety which it somewhat resembles in appearance, as well as in ripening at the same time.]

*Petre.* — This tree was presented to me by Mr. Carr, of the Bartram Botanic Garden, near Philadelphia, where the fruit originated. The first specimens were produced the last season, 1837. The size is large, the form long, round at the eye, and tapering to an obtuse point at the stem; the skin is a dull yellow, mixed with greenish russet; the flesh melting, juicy, and very delicious. Ripe in October and November. It is a pear of the very first rank, and should be extensively cultivated. *M.*



Golden Beurré.

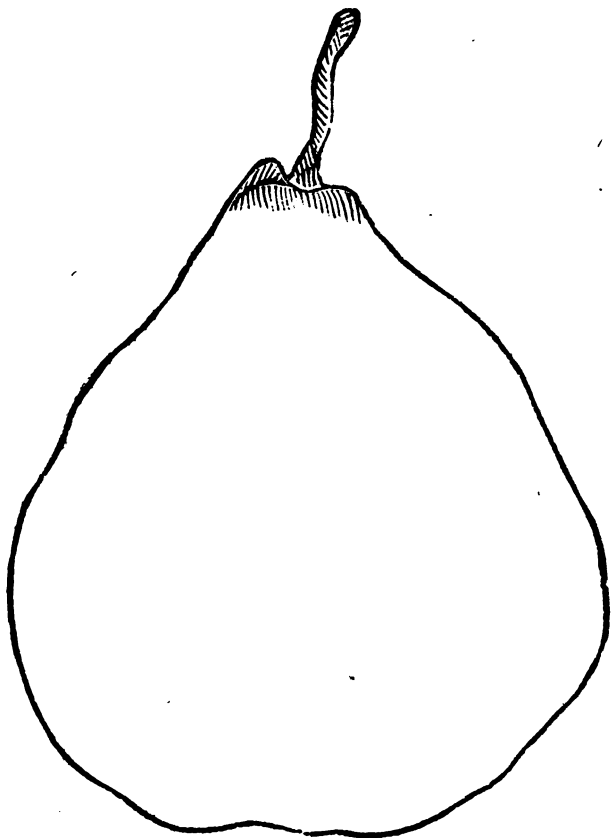
*Golden Beurré of Bilboa.* — This tree was imported from Bilboa, by Mr. Hooper, of Marblehead; the original name is unknown; in size and shape it resembles the Doyenne Gris, but the skin is of a lighter russet; the flesh is melting, rich, and of fine flavor; it is a good bearer. Ripens in October. *M.*

[This variety bears well with us, annually; the fruit nearly, if not quite equal to the Bartlett; it is a beautiful fruit, particularly when grown upon the quince root, having then a beautiful red cheek upon a rich yellow ground.]

*Rousselet de Rheims.* — This pear is of medium size, the form is oval, blunt at the stem; the skin yellow, with much dull red on the side next the sun; the flesh is breaking and fine, with a very high musk flavor; it is best when eaten ripe from the tree. The tree attains a large size before bearing; but, when more advanced, produces an abundant crop. Ripe in September. *M.*

*Wilkinson.* — A native pear from Cumberland, R. I.; the size in rich ground is large, the form oblong, round at the blossom end, and at the stem; the skin yellow, seldom (on pear stocks) any red; the flesh white, juicy, and melting, with a fine and delicious flavor. The tree bears young, is very fruitful, and in perfection during the months of October and November. If grafted on the quince, it is smaller, more prolific, higher flavored, and a brighter red cheek, than if grafted on the pear stock. *M.*

[Few native pears compare with this for richness of flavor; but the fruit is not always fair. We find it necessary to thin out at least one half of the fruit. The past season of '46, this fruit was equal in flavor to any November pear in our collection.]



*Frederic of Wurtemberg.* — This is one of the new Flemish pears, and has been cultivated un-

der the erroneous name of the Capiaumont. The size is large, round and full at the blossom end, tapering rapidly to a point at the stem, which is short and placed on the summit; the skin a bright yellow, with a brilliant red cheek next the sun; the flesh yellow, melting, rich, and excellent. The tree grows vigorously, bears young and abundantly, and the appearance of the fruit is beautiful. Ripe in September and October. *M.*

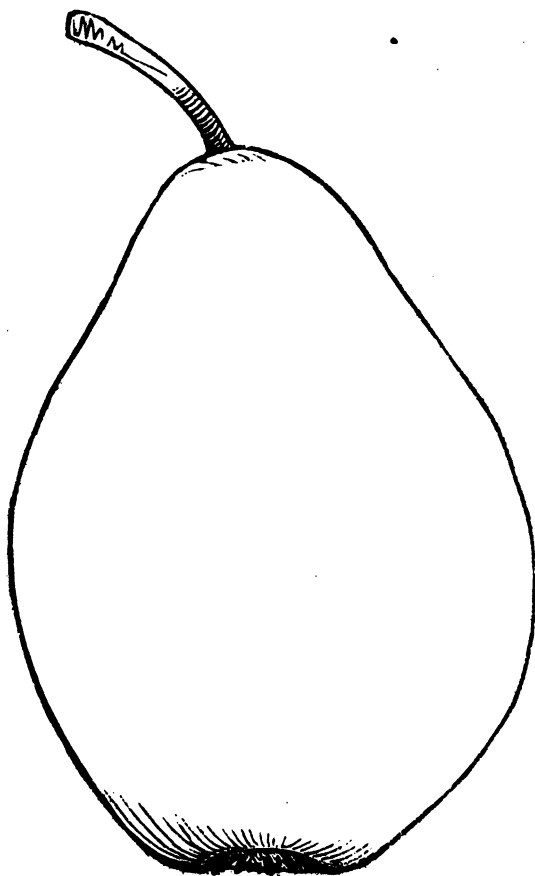
[This tree inclines to overbear; the fruit should be thinned, as the small specimens are generally worthless; it requires a more severe thinning of its fruit than the Passe Colmar, for unless the specimens are large and well colored, they are destitute of flavor.]

*Napoleon.* — One of the new Flemish pears; the size is large, the form long, round at the blossom end, contracted in the middle, obtuse at the stem, which is short; the skin at maturity is a yellowish green; flesh melting and fine, with an unusual quantity of juice; in some soils, a little too astringent; tree healthy and strong, bears well, and the fruit ripens in October. *M.*

[This tree has borne with us fine melting pears, without astringency, for three years past. Bears greatly on small trees.]

*Fulton.* — This pear originated on the farm of Mrs. Fulton, Topsham, Maine. The size is small, the form nearly round, a little lengthened, the skin entirely covered with dark russet; the flesh white, melting, juicy, and well flavored; the tree bears well, and the fruit ripens gradually in the house, in October and November. *M.*

[The Fulton grows and bears finely upon the quince root.]



Marie Louise.

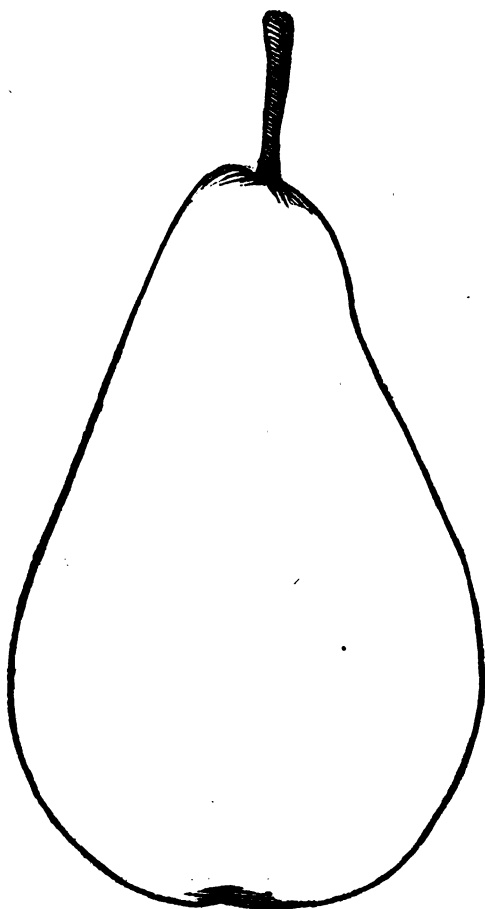
*Marie Louise.* — This is also one of the new Flemish pears; the size is large, the form long, tapering from the middle to the eye and stem; the skin is a dusky yellow, sometimes with a large portion of cinnamon russet; the flesh white, melting, juicy, and very delicious; the tree grows crooked, and the leaves are small and generally hollowed like the bowl of a spoon; it is equal to any other pear of the season, European or American. Ripe in October and November. *M.*

[The above variety requires to be grown in a strong and rich soil. With us the fruit varies in size exceedingly.]

*Newtown Virgalieu.* — We should judge by the name that this pear originated on Long Island; it is of large size, round at the blossom end, tapering to a point at the stem, which is short; the skin of a pale yellow, seldom with a tinge of red; the flesh is sweet, rather dry, not highly prized as a table fruit, but excellent for baking. It ripens in the early winter months, and its productiveness renders it desirable in an orchard. The tree is crooked and strong in its growth, forming a large spreading head like that of an apple tree. *M.*

*Lewis.* — This pear originated on the farm of Mr. John Lewis, Roxbury, Mass. The size is small, the form round, a little oblong; the skin, when ripe, a greenish yellow; the flesh white, melting, juicy, and good. The tree is of the most rapid growth; a great and constant bearer. The fruit ripens from November to February. *M.*

[The London Horticultural Society pronounced this fruit first-rate. It is a fine pear, an abundant bearer, particularly when grown upon large, well-established trees.]



Dix.

*Dix.* — This fine pear originated in the garden of Mrs. Dix, in Boston ; the size is large, oblong, tapering gently from the blossom end to the stem, which is short ; the skin, when ripe, is yellow, sometimes with a blush of red on the side exposed to the sun ; the flesh melting, juicy, and very rich, with a high and most agreeable flavor. In perfection during the months of October and November. The tree is of slow growth, the wood small and thorny ; it grows to large size before bearing ; it then produces plentifully. *M.*

[A remarkably handsome growing tree, bark very smooth and healthy, the fruit in some situations and seasons inclined to crack. It is, notwithstanding, one of the most popular native pears of Massachusetts. The fruit was fair with us in 1845.]

*Harvard.* — This pear originated in Cambridge, Mass. The size is large, the form oblong, contracted in the middle, diminishing to an obtuse point to the stem, which is inserted in a small cavity ; the skin is of a dull russet yellow, sometimes nearly covered with brownish red ; the flesh white, juicy, and fine, but subject to rot at the core, which is its only defect. The tree is uncommonly strong and upright in its growth ; it attains a large size before producing fruit ; it is then a great bearer. Ripe in September and October. *M.*

[This is a popular pear in the Boston Market, where it is called the "Epargne ;" it is a profitable fruit for cultivation, although occasionally rotting at the core.]

*Bleeker's Meadow.* — A native fruit from New York ; the size is small, the form round, somewhat flat ; the skin, when fully ripe, is yellow ; the flesh yellow, melting, juicy, and high flavored.

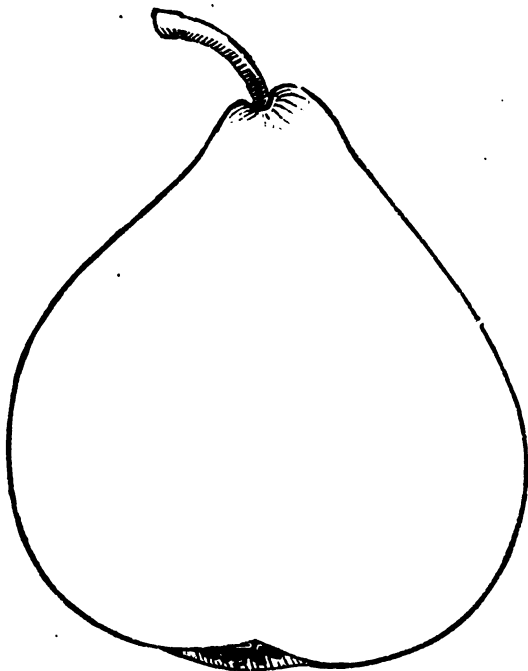
The growth of the tree is vigorous; it does not bear young, but, as it increases in size, it bears well. Ripens in October and November. *M.*

[The large Seckel, as it is called South, is a prodigious bearer, as well as grower; the uncertainty of its ripening, particularly when grown upon strong soil, has induced many to discontinue its cultivation. It is, however, a profitable fruit for the market, and when well ripened resembles the St. Michael in flavor. The Bleeker's Meadow is a fine stock for the Belle Lucrative and Beurré Bosc pears.]

*Beurré Diel.* — One of the best of the new Flemish pears. The size is very large, tapering gradually from the middle to both the eye and stem, where it is full and thick; the skin, when ripe, of an orange color, with small russet spots; the flesh white, sugary, rich, and delicious; the tree is of a crooked but strong and healthy growth; it bears well, and the fruit ripens in November and December. *M.*

[This fine large pear occasionally cracks with us. It may require a stronger soil, and a more sheltered situation. The season of 1842 and '45, it blasted somewhat; but in 1843, as also the past season of '46, it was much fairer.]

*Prince's St. Germain.* — Produced from seed at the nursery of W. Prince and Sons, at Flushing, L. I. The fruit is of medium size; in form sometimes like the old St. Germain; the skin yellow, with patches of russet, and a dull red cheek on the side exposed to the sun; the flesh is melting and good, but not esteemed a first-rate fruit; its abundant bearing, and its ripening gradually in the house during the winter, renders it a very valuable market fruit. *M.*



*Passe Colmar.* — This is also one of the new Flemish pears ; the size is large, the form round and full at the blossom end, contracting suddenly to the stem, which is about an inch long, and planted in a small and oblique cavity ; the flesh is yellow, melting, sweet, and excellent. The growth of the tree is vigorous, without any sym-

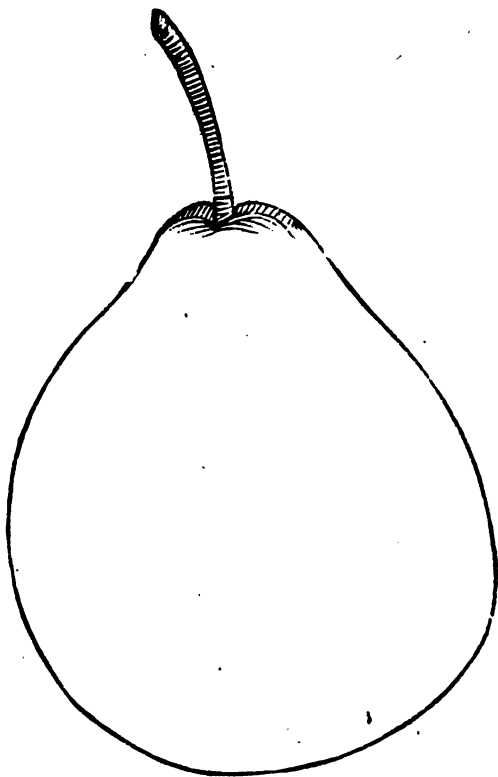
metry; its produce very great; it is a favorite, and deserves to be so. We have had them in eating from October to February. *M.*

[This pear, so inclined to overbear, particularly when grown upon the quince (a stock which appears to be the best for its growth), should be thinned of its fruit as early as possible, after setting; it will then ordinarily produce an early winter fruit, in eating in December, and then of as high a flavor as any fruit of its season.]

*Bourgmestre of Boston.*—A pear of large size, very long, round at the blossom end, tapering gently to a point at the stem, which is long and fleshy at its junction with the fruit; the skin greenish yellow (on a quince stock it has a bright red cheek); the flesh juicy and pretty good, but not rich. Ripe from November to January. This is not the Bourgmestre of the London Horticultural Society's Catalogue. We were inclined to discontinue its cultivation; but its abundant bearing, great size, and beautiful appearance, the two last seasons, have induced us to continue it for further investigation. *M.*

[This pear (Vicar of Winkfield of the English) is considered by the growers around Boston to be one of the most profitable fruits to raise for the market of any winter variety. Those which we have raised upon dwarf trees were not a fine-eating pear, although first-rate for cooking.]

*Catillac.*— This is one of the old French baking pears; it is very large, flat and round at the crown, diminishing rapidly to the stalk, which is an inch in length, obliquely inserted; the skin of a light green, nearly yellow when ripe; the flesh hard and suitable for baking from November till April; very productive. *M.*



*Winter Nelis.* — One of the new Flemish pears ; the size and form is somewhat like the Seckel ; the skin a greenish yellow, covered with dark spots ; in some seasons they have a large portion

of dull russet; the flesh yellow, melting, sweet, and very high flavored; a very fine pear, ripening during the months of December, January, and February. *M.*

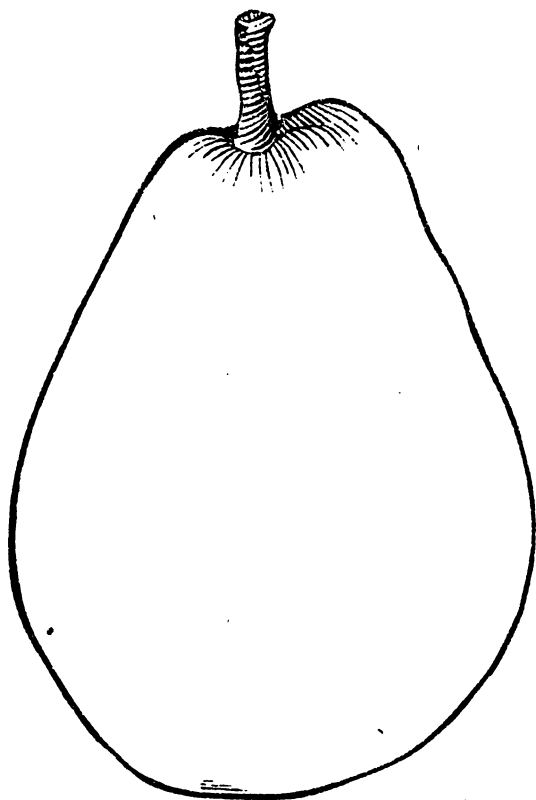
[The above is, in our estimation, the best winter or late fall pear in our region, always fair, always rich, and a constant, although not great bearer. The fruit is of medium size, averaging larger than the Seckel, and is truly deserving of extensive cultivation.]

*Surpasse St. Germain.* — Introduced into England from Flanders, by the late John Braddick, Esq. It is of medium size, round at the crown, tapering to the stem, which is obliquely planted; it is of very irregular form; the skin is rough, yellow, mixed with dull brown; the flesh coarse grained, sugary, and high flavored; it produces abundantly, and the fruit ripens in December and January. *M.*

*Black Pear of Worcester.* — Fruit large, oblong; skin rough, covered with dull russet; the flesh hard and coarse; suitable for baking during the winter and spring; it produces abundantly; the branches of the tree, when loaded with fruit, bend to the ground like the weeping willow. *M.*

[This pear is more productive, and better for general culture, than the "Pound," the latter having in many localities somewhat degenerated.]

*Beurré d'Amaulis.* — This new pear is said to have been received from France. Size large; color green, inclined to yellow, covered over with numerous red or russet spots; flesh melting and juicy; flavor sweet and excellent; tree vigorous. Ripe in August and September.



*Beurré d'Arenberg.* — A new Flemish pear; in good ground it is usually of a large size; the form oblong, thick at the crown and stalk; the

skin, when ripe, a dark yellow, mixed with russet specks; the flesh white, melting, rich, and sweet. It is in eating during the winter months, and has the reputation of being one of the most valuable winter pears. *M.*

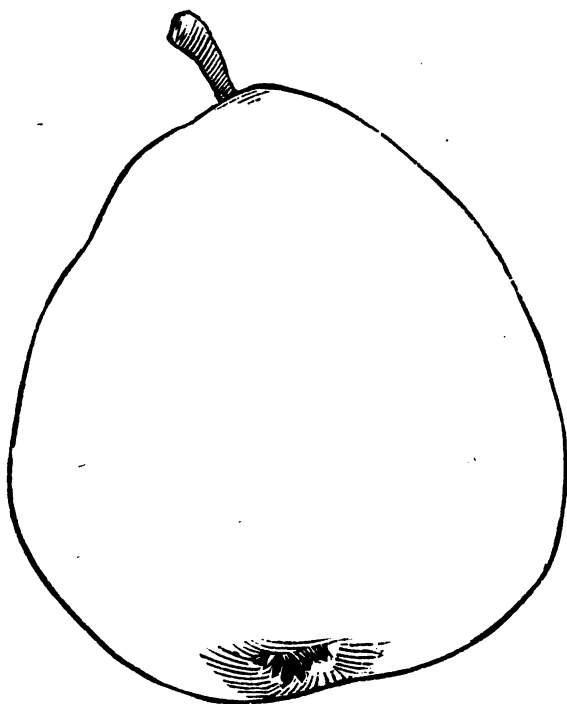
[This tree, we think, requires a stronger soil than ours, to produce good fruit. Col. Wilder, and some others, produce fine specimens; those raised with me for the first time the past season, upon a healthy stock of the Dix pear, were small, and quite indifferent in quality.]

*Easter Beurré.* — The size of this pear is large; of an oval form; the skin, when ripe, is dark yellow, covered with russet spots; the flesh yellow, melting, and high flavored. It bears abundant crops, grafted either on the pear or quince; keeps till May, and is the most valuable late winter pear yet known. *M.*

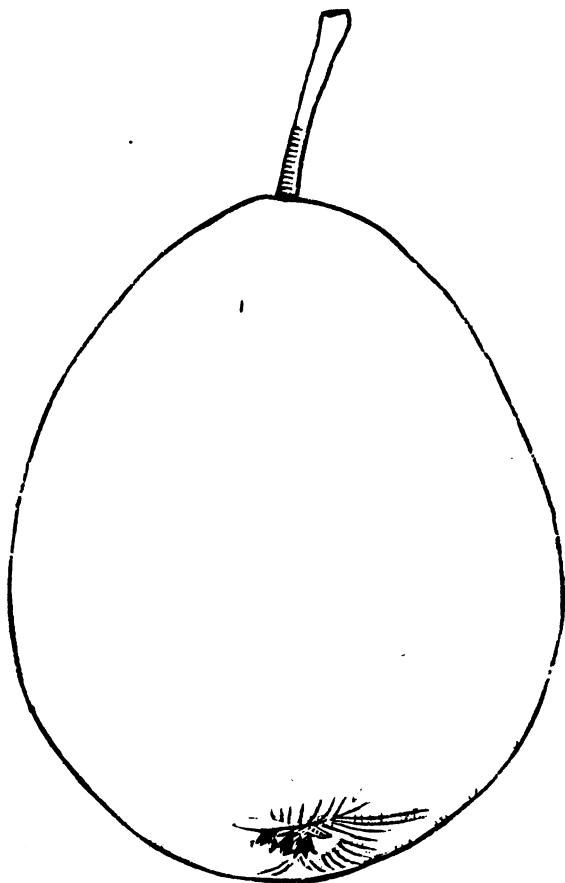
[The above fruit is so difficult or uncertain in ripening, that we have been almost inclined to regraft our trees; but coming in a season when pears are scarce, and the possibility of ripening it, as some others have occasionally, induces us to retain one or two trees.

We should not, however, recommend this variety for general culture.]

*Columbia.* — This excellent native variety is raised in perfection by the President of the Massachusetts Horticultural Society, who says, "that it has proved with him a fruit more uniformly smooth, perfect in shape, and free from the depredations of insects, than almost any other sorts. Tree thrifty, not a great bearer when young, but a great bearer on mature subjects; fruit large, color lemon yellow, very handsome, and may be kept two or three weeks in this state. Ripens early in January."



*Stevens's Genessee.* — This pear is supposed to be a native fruit, having been first brought into notice by a Mr. Stevens, near Rochester, N. Y. It is an early fall variety, ripening the first of September; the size is large; flavor sprightly and good.



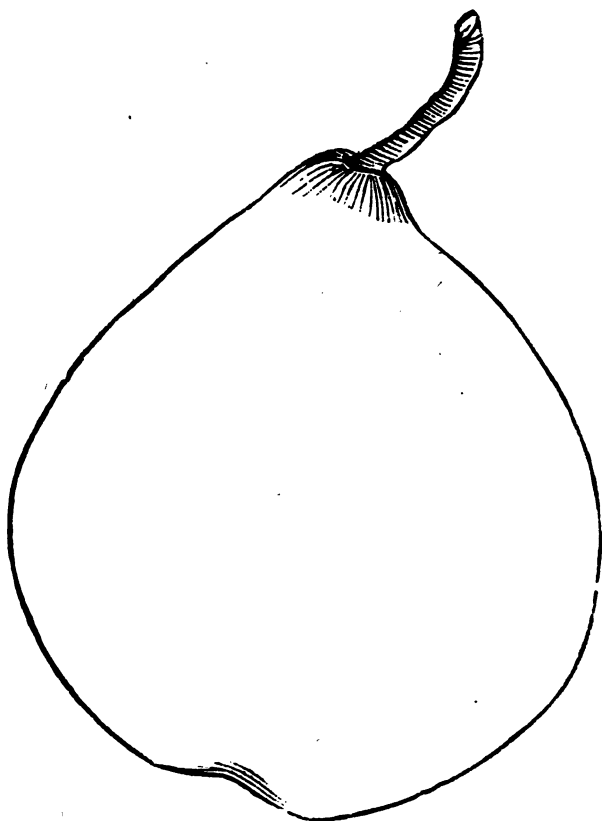
**Flemish Beauty.**

*Flemish Beauty.* — Belle des Flandres. This newly introduced pear is of large size, color greenish russet, and handsome; ripening in October, and keeping into November; the tree is vigorous, and promises to be a great bearer; flesh yellowish white, sweet and excellent. This has been pronounced by an experienced cultivator, the best pear for general culture in the country; ripening when two thirds grown.

*Pound Pear.* — This is one of the largest pears; its origin unknown, but supposed to be European; the form oblong; some of the pears are thickest in the middle, tapering to the crown and stem; the flesh coarse and astringent. It is a great bearer, and the best winter baking pear, being one of the most profitable fruits for the market. The extensive cultivation of this pear, and the above, in large orchards, would produce greater and surer income, for the capital employed, than any other investment. *M.*

[We should add also the "Vicar of Winkfield," or Bourg-mestre of Mr. Manning's list.]

*Van Mons' Leon le Clerc.* — Small trees of this new variety were sold in England at a guinea each, and it was to be expected that a great desire would be raised here to possess so famous a sort. On Mr. Kenrick's return from Europe, he brought with him small trees, which have fruited. We find various opinions expressed regarding this variety; but if the fruit should sustain the high character of "combining the properties of large size, handsome appearance, and rich flavor," it will be an acquisition to our already fine list of fall pears.



*Josephine, or Jaminette.* — This new Flemish pear is of good size ; flesh melting, flavor sweet, not

high; ripens in November and December; a good bearer, particularly upon the quince, and is a desirable variety. This sort occasionally cracks.

*Hunt's Connecticut.* — This early winter fruit, introduced by Dr. Hunt, of Northampton, is a profitable variety for cultivation. The tree bears early and abundantly; fruit of medium size, rather oblong, and an excellent cooking pear late in the fall.

*Reine des Poires* (Queen of Pears). — This is a large pear; the form obtusely pyramidal; the skin a dull yellow, mixed with red, and red on the side exposed to the sun; the flesh crisp, pleasant and good, but not high flavored; it bears young, and is very productive. Ripe in October. The tree has a great resemblance to that of the Eastern *Beurré*. *M.*

[Wm. R. Prince says, that this pear is "worthy of culture:" we have not as yet fruited it.]

*Beurré Romaine?* — This tree was received from Prince's Nursery, at Flushing, L. I., some years since, under the above name. It bears young and constantly. The fruit resembles somewhat in form, as well as in its time of ripening, the "Urbaniste," which name was affixed to specimens sent to the Massachusetts Horticultural Society. It is, however, a distinct variety, and resembles the "Bezi Montigny" more than any sort we have as yet seen, differing only in the deeper cavity around the stem. This fruit ripens in September and October. A fine melting pear.

[It is in our soil a great and constant bearer; fruit fair, and quite equal in flavor to the "Urbaniste."]

*Glout Morceau.* — A new Flemish pear; the size is sometimes large, the form rather oblong, round at the crown, diminishing suddenly to the stalk, which is inserted in an oblique cavity; the skin is a dull green, nearly yellow when ripe, mixed with russet blotches; the flesh white, juicy, and excellent; the growth of the tree is crooked and bending; it produces well, and the fruit ripens gradually from December to February. The French nurserymen still continue the cultivation of this pear under the name of the *Beurré d'Aremberg*. *M.*

[This fine fruit we cannot recommend for general culture, as the greatest proportion of growers complain of its shedding its fruit soon after it has set; with us, it has invariably done this. We think that, unless placed in a strong and highly manured soil, it is not worth cultivation.]

*Muscadine.* — A New York seedling, brought into notice by A. J. Downing, of Newburgh; it is a fine early fruit; the tree makes thrifty upright shoots; as good a grower as any in our collection. Fruit of medium size, flesh white, and buttery, with a good flavor. Ripe here in September.

*Paradise d'Automne.* — A new and fine fruit, resembling the *Beurré Bosc* in form, and equal to it in flavor; has recently been grown at the Pomological Garden of Mr. Manning, and which is considered there to be a greater bearer than the *Bosc*; it is, without doubt, a valuable acquisition to our fall pears. Flesh white, fine grained, buttery, with a high and rich flavor; ripening in September.

*Lawrence.* — This new variety, a native of

Flushing, L. I., recently brought into notice by Messrs. Wilcomb & King, nurserymen. We have not as yet fruited; but learn from Mr. Wilcomb that it is a good bearer, and a delicious fruit. Downing says, "the fruit is not inclined to rot or shrivel; commencing to ripen in October, and will keep till March. Fruit large, obovate; flesh yellowish, white, melting, juicy, with a very rich and sugary flavor.

*Thompson's.* — This pear, named in honor of Mr. Thompson, of the London Horticultural Society, has been grown here by J. S. Cabot, Esq., who says that it is a fruit of a rich sugary flavor. Downing describes it as a fruit of "high merit, having the qualities of the Passe Colmar and Doyenne (St. Michael) combined, but with most of the richness of the former. It is very productive, and merits a place in every collection of pears. Fruit medium size, obovate."

*Bezi de la Motte.* — This fine pear, particularly when grown upon the quince, originated in Europe, and, although an old variety, has not been cultivated so much as we think its quality should warrant. Size above medium, form roundish, color yellowish green, eye small, stalk short, flavor rich, very productive, and is one of the best varieties we fruited the past season of 1846. Duhamel says it does not succeed well on dwarf stocks. With us it does well, worked on the quince. Ripens in November.

There are a number of new varieties of pears of comparatively recent introduction, and of de-

sirable kinds, which we have not as yet fruited ; among them are the following :

Dunmore,	Duchesse de Mars,
Althorp Crassane,	Eyewood,
Conte de Lamy,	Gendesheim,
Passans du Portugal,	Moccas,
Ambrosea,	Ne Plus Meuris,
Knight's Monarch,	Parmentier,
Osband's Summer,	Pomoise,
Oswego Beurré,	Suffolk Thorn,
Onondaga,	Welbeck,
Belmont,	Yat,
Beurré Crapaud,	Beurré Langelier,
Bringewood,	Beurré Spence,
Broom Park,	Duchesse d'Orleans,
Brougham,	Wilhelmine,
Shobden Court,	Saint Mark,
Oakley Park Bergamotte,	De Lepine.

#### THE PEACH.

The peach is generally supposed to have originated in Persia and China ; some, however, have considered it really indigenous to America. Hennipen, who has given us the first description of the regions of Louisiana, in his voyage down the Mississippi, describes the peach he observed in *all parts* of those regions, as being of immense size, which has led some to conclude, that as those latitudes correspond with the part of Asia, where this tree is deemed indigenous, they are natural to Louisiana. Botanists, in common with the French cultivators, regard the peach and nectarine as merely varieties, and not distinct species. Scientific cultivators of Europe have endeavored to make an arrangement of this fruit into divisions and subdivisions. With us this would seem to be a difficult process, as thousands of sub-varieties are constantly being produced from the seed,

and we therefore ordinarily make but two divisions, under the terms freestone and clingstone; *the former*, those whose pulp or flesh separates freely from both skin and stone; *and the latter*, those whose flesh is firm, and adheres both to the skin and stone. It would also be exceedingly difficult to make a correct systematic arrangement of the kinds found in the nurseries, as those known in many nurseries by one name are distinct varieties. We have received from different sources, the "Noblesse" and the "Vanguard," which, upon fruiting, appeared identical; the "Early York" and "Early Royal George," one and the same. We do not, however, mean to be understood that it is difficult to depend upon obtaining fine fruit, but simply that there is so much confusion as to the original names, that it is next to impossible (as so many varieties nearly or quite approximate to each other in quality, time of ripening, &c.) that an entirely correct catalogue can be expected. The Grosse Mignonne, a superior fruit, is called by McIntosh (in consequence of the great number of its synonymes), "The Peach of an hundred names." "Nearly, if not all those, however, which are cultivated in the nurseries as early fruit, are of fine quality. Late peaches, such as Heath's Clingstone, Ward's Late Red, and some others, are hardly worth setting in this region, as they will not ordinarily ripen their fruit. The peach tree should be trained low, as in high training they are exceedingly apt to die *from the lower branches upward*. When small trees are set, they should be carefully examined, to see if any gum exudes, and the worm which causes it cut out. A box without top or bottom, or, in oth-

er words, four pieces of wood, from eight to ten inches in height, should be placed around the tree, sunk about two inches below the surface, into which place fine charcoal, which will ordinarily keep out the borer, which generally enters the tree at or near the surface of the ground. We have protected our trees the past season from the worm, by taking thin lead (such as we find in tea chests), and cutting it into strips of nine inches in width, bending them *close* around the tree, three inches below the surface of the ground, extending upon the trunk six inches above the earth.

In order to keep this tree low, the long shoots should be shortened in July, to about one half their length, always cutting at or near a *single*, and not a *double* bud. Young peach trees should never be placed upon the site of old roots of others. They thrive best in new virgin soil, not highly manured. In light and dry soil, early autumn planting will answer; but early spring we generally prefer. Care should be taken, in transplanting, *not* to place the roots too deep in the soil; for from this circumstance more trees are injured than by almost all other modes of planting put together. The following are among the most desirable kinds:—

Crawford's Early Melocoton	President,
Early Royal George,	Hastings's Rareripe,
Coolidge's Favorite,	Morris's White,
Red and Yellow Rareripe,	Red Cheek Melocoton,
Early York,	Grosse Mignonne,
Malta, or Maltese,	Bellegarde,
Crawford's Late Melocoton,	George the Fourth.

*Early Ann.* — This is a small round fruit, with a greenish white skin; flesh melting and good.

The tree does not attain a large size ; a freestone, ripe in August. *M.*

*Early Royal George.*—The size is large, the form round, the skin of a bright yellow, with a large portion of deep red on the side exposed to the sun ; the flesh melting and delicious ; it is a great bearer, and one of the most superior peaches we have ever raised ; a freestone, ripe in August. *M.*

*Red Rareripe.*—This is a large freestone peach ; form nearly round ; the skin of a very bright yellow, with a light red cheek ; the flesh very rich and excellent. Ripe in August. *M.*

*Red and Yellow Rareripe.*—A large, round, freestone peach ; the skin of a deep orange yellow, with a dark-red cheek ; the flesh deep yellow, rich, sweet, and luscious. The tree is an abundant bearer ; and a most valuable peach — ripening in August. *M.*

[This variety ripens with us nearly a month earlier than the Royal George Freestone.]

*White Rareripe.*—This peach is of large size, the form somewhat oblong, the skin a pale yellow, nearly white ; flesh white, juicy, and of fine flavor. Ripe in August. *M.*

[The White Rareripe, described by R. B. Parsons, in the "Horticulturist" as superior to Morris's White, may be an old variety, conjectured by Downing to be the "Nivette."]

*Grosse Mignonne.*—This is a large, round, and most beautiful freestone peach ; the skin deep yellow, with a brownish red cheek next the sun ; flesh light yellow, fine and delicious. A peach of the highest character. Ripe in August. *M.*

[This sort, and the Malta, are our best peaches.]

*Red Cheek Melocoton.* — A large freestone peach, of an oblong shape, the skin of an orange yellow, with a dark-red cheek ; flesh yellow, melting, and rich. Ripe in September. *M.*

[This variety has not ripened with us for the past two years, until the last of October. It is the best late peach we cultivate.]

*Malta.* — This peach is of a large size ; form round, rather flat at the stem ; the skin a light green, mottled and blotched on the sunny side with dull red ; the flesh greenish yellow, red next the stone, with a most superior flavor ; a freestone peach. Ripe in September. *M.*

[This variety, although not a great bearer, is the most delicious peach in our grounds.]

*Coolidge's Favorite.* — A large-sized, rather oblong peach, of fine flavor, and a popular fruit in the market. Ripe in September.

*Early York.* — The peach we cultivate under this name resembles the Royal George in form, flavor, color, and time of ripening ; it is, however, a much greater bearer, and is one of the most profitable variety for fruiting we possess.

*George the Fourth.* — An excellent peach, of medium size, and globular shape, of a pale yellow color in the shade, and dark red next the sun ; flesh yellow, but red at the stone, from which it separates. Originated in New York ; ripe in September.

*President.* — A large and most superior freestone peach ; the form roundish oblong ; the skin pale yellow, with a bright red cheek ; the surface covered with small red spots, which give it a rich

and beautiful appearance; the flesh white and high flavored; one of the best of peaches. Ripe in September. *M.*

*Belle de Vitry.* — This peach is of large size; the form round, a little oblong; the skin a dull yellow and red; the flesh melting, juicy, and excellent; between a freestone and clingstone. Ripe in September. *M.*

*White Blossom.* — Of medium size, oblong; the skin a very light yellow, nearly white; the flesh white, melting, and extremely juicy, with a most agreeable acidity. Ripe in September. We have found this a hardy peach, and most certain bearer in our climate. We have for several years reproduced them from the stone. The blossoms are clear white, and the young wood resembles that of the willow tree. *M.*

*Orange Freestone.* — This peach is of medium size; the form round; the skin a deep orange yellow; flesh yellow and sweet, but rather dry; a beautiful and good fruit. Ripe in September.

*Congress Clingstone.* — The size is large, form round; skin yellow and bright red; flesh rich and excellent. Ripe in September. *M.*

*Oldmixon Clingstone.* — Large, round, and rather flat; skin whitish yellow, with a bright red cheek, beautifully spotted with red dots. Of all the clingstone peaches, this is the most delicious; a great bearer, ripening its fruit gradually in September. We have cultivated this peach, and the Catharine and Old Newington, and could never perceive any difference in the fruit or trees. *M.*

*Heath Clingstone.* — Fruit large, oblong; skin of a delicate cream color, sometimes with a faint blush on the sunny side; flesh rich, very juicy, and fine flavored. Ripe in October, and we have eaten them produced in our own orchard in the highest perfection on Thanksgiving day, November 30th. *M.*

*Crawford's Early Melocoton.* — This is a large-sized fruit, the form round, the skin of a beautiful bright yellow, with a large portion of red on the side exposed to the sun; the flesh melting; a free-stone, and a popular early variety, ripening in August.

*Crawford's Late Melocoton.* — This is the largest and most showy yellow-fleshed peach we have ever seen, and one of the best market varieties of our country. Ripens here in September and October, and worthy of extensive cultivation. Specimens of this fruit often measure nine and ten inches in circumference.

*Bellegarde.* — A large and superior flavored white-fleshed peach, color rich, deep red, streaked with dark purple or violet on one side. In the south of England, this is one of their very best peaches for forcing. Ripe in September.

*Murray's Early Ann.* — This is the earliest peach in our collection, ripening the first of August. Size small, color white, pulp white throughout, flavor sweet.

*Morris's White Rareripe.* — This variety we received from Flushing, under the name of Lady Ann Stewart. It is a fine white-fleshed and sweet fruit; great bearer, and worthy of extensive cultivation.

*Beauty of Vitry.* — This variety we received from William Prince & Co. It is a fine large freestone peach, of a rich flavor, and appears identical with the Late Admirable. This variety is worthy of extensive cultivation. Ripens in October.

*Apricot.* — This handsome early fruit is not much cultivated with us; the only variety we cultivate is the Moorpark, which does well, particularly when grown upon the plum root. They require very much the same treatment as the peach, shortening in of the branches, so necessary with the latter fruit.

#### PLUM STOCKS FOR PEACHES.

In England, where peaches are invariably raised upon walls, or trellises, they almost universally make use of the plum as a stock to graft upon. In our country, where peach trees grow so luxuriantly, we should not recommend this stock, as the scion not only overgrows it in a short time, producing an unsightly appearance, but is exceedingly apt to be blown down by the wind; the roots of the plum, being of a much slower growth, are not sufficiently large and expanded to support the larger top or branches.

Budding the peach upon this stock, even to the height of six or eight inches from the ground, we have found no security from the ravages of the borer, as that insect will pass over the plum, and enter into the peach at, or just above, the junction. We have generally preferred to bud on stocks of seedling peaches, considering them decidedly superior to the plum, particularly when wanted for standards.

## THE PLUM.

The native country of the plum is supposed to be Asia. The majority of our finest varieties have been introduced from France. Of sixty-four sorts, described by Professor Bradley, not one has other than a French name. Since his time, however, a great variety has been produced in England and in this country, and new sorts are constantly being produced. Corse of Montreal, and Downing of Newburgh, have brought forward many fine plums. Among those kinds which have originated from seed in our country, the Washington, Jefferson, Lawrence, Coopers, Roe's Autumnal, and Columbia, are among our best native varieties. The plum tree flourishes best in a rich sandy loam, neither too dry nor too moist; a cold, wet, clayey soil, or dry sandy situation, is not so favorable. They appear to thrive best in our neighborhood, near the borders of the sea; which we think is owing to their being in situations not so subject to the insect called *curculio*, which perforates the fruit. We have, since 1841, applied annually, in the spring, coarse salt around these trees, with good effect, spreading upon the top of the ground, as far as the branches extend, about one inch in depth, and, in the course of a fortnight after its application, turning it under the surface nearly the depth of a spade. In 1843, we fruited thirty varieties, all ripened, with the exception of Coe's Late Red. The following, from a practical cultivator of this fruit, we would recommend:—  
“When this tree has arrived to maturity, and

ready to bear, the soil around, to the spread of the branches, should be thrown into a hard texture, of the consistency of a gravel walk. A pig or poultry yard, with a hard pan, is a fine position for a plum nursery. The advantages are, a more stinted, and, consequently, a less exuberant growth of the branches, a greater supply to the fruit, and a prevention, in some degree, from the attack of the curculio, as that insect, not meeting with a proper soil to deposite its eggs, will take shelter elsewhere."

Removing the soil from around these trees to the extent of its branches, even to the laying bare the top roots, and filling the whole with fresh sea mud or salt sand, is found beneficial to the production of its fruit. Many set their plum trees too deep, particularly in rich soils, causing them to produce strong watery shoots, growing so late as to be imperfectly ripened. "They require," says Kennedy, "like all other stone fruit, to be planted on a dry sub-soil; in such situations they bear high-flavored fruit in great quantities. They are not so large as when plantéd in strong earth; but the quality and richness of the flavor make amends for that deficiency." M'Intosh observes, "that in planting this tree the tap-roots should be shortened, and the others spread out in a regular manner near the surface, so that they may enjoy the warmth of the sun, heat, and air, which is necessary for the welfare of all fruit-bearing trees. If planted in too rich a soil, they become so luxuriant in growth, as to require immoderate pruning to keep them within due bounds; and excessive pruning, in such cases, only tends to aggravate the evil."

Plum trees are subject to a disease which has been so destructive to them, as to have destroyed nearly all the damson plums heretofore so common in our neighborhood. It appears at first a greenish brown excrescence, which soon becomes black. Various are the hypotheses which have been given as to the cause of these warts. Some have attributed it to the quality of the soil, others to a redundance of nourishment, which distend the cutaneous vessels by an extravasation of the sap; others, to the work of an insect. In our examinations, &c. for years, we were not able to find an insect in these excrescences *while in a green and fresh state*; and have heretofore been inclined to adopt the theory of the distension of the cutaneous vessels, considering the worms which we have repeatedly found in these warts, *when black*, to be a *consequence* and not a *cause* of this disease. We have considered this excrescence analogous to that which we find upon the swamp pink, or azalea, called by boys swamp apples, which has always been supposed by botanists to be caused by an insect. From farther observation, we are inclined to believe that these exudations are caused by a diseased state of the sap. The only remedy that we have found effectual has been the amputation of the diseased limb. These excrescences always extending themselves *upwards*, and not *downwards*, upon the branches, would seem to prove that the disease either enters, in some manner, into the circulation, or that the insect always ascends.

We have not, as yet, found any variety that is entirely exempt from this fatality; but some appear to be more subject to it than others; which

may, however, be attributed more to the locality than to any thing else. One thing we feel confident of is this, that the most effectual way of eradicating them from our gardens, is not only to examine the trees carefully in spring, cutting off every branch as soon as they appear upon it, but inducing those who may have them in their inclosures contiguous to ours, to do the same. Among those described in this manual, we would recommend the following : —

Green Gage,	Royal Hative,
Purple (Reine C. Violet),	Jefferson,
Bolmar's Washington,	Violet Perdrigon,
Italian Damask,	Orleans,
Coe's Golden Drop,	Roe's Autumn Gage,
Blue Imperatrice, (for Pre-	Red Gage (of Downing),
Cruger's Scarlet, [serving,]	Dana's Yellow,
Sharp's Emperor,	Kirk's Plum.

*Italian Damask.* — Fruit of medium size, round; skin dark blue, nearly black; stem half an inch long, inserted in a small round cavity; flesh yellow, juicy, and high flavored. A free-stone, a great bearer, and one of the best early plums. Ripe in August. *M.*

*Morocco.* — A fine and very productive variety; the size is rather small, nearly round; the skin a dark purple, covered with a blue bloom; flesh greenish yellow, juicy, and good. A cling-stone, ripening in August. *M.*

*Prince's Imperial Gage.* — Originated at the nursery of William Prince & Sons, Flushing, N. Y. Fruit nearly as large as the yellow egg plum; of an oval form; when fully ripe, the skin is yellow, with streaks of bright yellow and green indistinctly seen; the flesh rich and sweet. The

most productive and profitable of all the plums. Ripe in August. *M.*

[This variety succeeds well upon the peach, budding it as near the root as possible. We have trees received from Albany for Jenkinson's Imperial, which are identical with this plum: the fruit inclines to rot at time of ripening.]

*Brevoort's Purple Washington.* — Produced from the stone of Bolmar's Washington, by Mr. Brevoort, of New York. Fruit of large size; form round, and nearly oval; skin dark blue, covered with a bloom; the flesh sweet and good. A freestone, ripening in September. The tree is of vigorous growth and very productive. *M.*

*Orleans.* — This is a well-known and productive plum; the fruit is sometimes large, the form round, the skin dark, approaching to a purple, with a thin blue bloom; the flesh yellow, firm, and good, with some astringency near the stone, from which the flesh separates. Ripe in August. *M.*

*Kirk's Plum.* — Fruit large, round; skin dark purple, covered with a dense bloom, which adheres firmly to the skin; the flesh yellow, juicy, and rich. A very productive freestone plum, ripening in August. *M.*

*Large Long Blue.* — The origin of this fine plum is uncertain. The tree which produced the specimens was procured from the nursery of the Messrs. Landreth, Philadelphia. The size is large, the form oval, very long; the skin blue, nearly black, covered with a thick bloom; the flesh yellow, rich, and excellent; it hangs a long time on the tree, ripening gradually, and is well adapted to the market, bearing carriage better

than most other plums. It is a great bearer, a freestone. Ripe in September. *M.*

*Green Gage.* — The finest of all plums; of medium size, round; the skin a greenish yellow, when very ripe nearly yellow, mottled with red near the stem; flesh sugary and of delicious flavor. In our own exposed grounds, and in grass, it bears abundant crops, not being subject to rot like many fine plums. A freestone ripening in August and September. *M.*

[The varieties of plums which we have received from Europe, under the names of Drap d'Or, Golden Gage, and Reine Dauphine, have proved to be the Green Gage.]

*Bleeker's Gage.* — Produced from seed by the Rev. Mr. Bleeker, of Albany, N. Y. The form oval, nearly round; skin a dark yellow, with dark red spots and blotches; the flesh is rich and excellent, a great bearer. Ripe in September. *M.*

*Cooper's Plum.* — Produced from a stone of the Orleans, by Mr. Joseph Cooper, of New Jersey; the size is very large, round, a little oblong; the skin a dark purple; flesh greenish yellow, rich, and good. It ripens in September; produces abundant crops; but is very subject to rot at the period of ripening. *M.*

[We received this fruit from Europe under the name of "La Delicieuse."]

*Elfrey.* — This is a plum of small size and oval form; the skin dark blue; the flesh dry, firm, and of fine flavor. The trees produce abundantly. A freestone, ripening in September. *M.*

*German Prune.* — Fruit of medium size; form oval, diminishing towards the stem; the skin pur-

ple with a blue bloom; the flesh rich, sweet, and delicious. It produces abundantly; it begins to ripen in August, and can be eaten from the tree for a month or more. *M.*

*Duane's Purple.* — This is a plum of an extraordinary size; the form round; the skin a dark purple; flavor good. The origin of this plum is uncertain; it ripens in September, and has the reputation of being a fine fruit. *M.*

*Bingham.* — Fruit large; the form oval; skin a bright yellow, spotted and blotched with red; the flesh yellow, rich and delicious. A clingstone — ripening in September. *M.*

*Washington.* — This very superior plum originated in New York; the size is very large; form oval; skin an orange yellow, speckled with red; the flesh yellow, sweet, and excellent; highly esteemed as a first-rate plum. Ripe in September. *M.*

*Italian Prune.* — The size is large; form oblong; the skin dark purple, covered with a bloom; flesh greenish yellow, firm, dry, and fine. It bears well, and the fruit ripens in September and October. *M.*

*Diamond.* — This new plum originated in England; it is of the largest size, oblong; the skin purple, nearly black, covered with a thick bloom; the flesh firm and good, but not rich; the tree is of rapid growth, an extraordinary bearer. The fruit ripens in September. *M.*

*Blue Imperatrice.* — Fruit of medium size; shape oblong, tapering to the stem; the skin a

dark purple, covered with a light bluish bloom; the flesh yellowish green, firm, rich, and sweet. A clingstone. A great bearer. It hangs on the tree a long time, and is in use in October and November. *M.*

[This variety bears greatly upon small trees.]

*Coe's Golden Drop.* — This beautiful new plum is of large size; the form is oval, with unequal sides; the skin a golden yellow, spotted with rich red points and small blotches, on the sunny side; the flesh yellow, sweet, and delicious. A clingstone — an abundant bearer. Ripening gradually in September, October, and November. Of all the late plums this is decidedly the best and the most profitable which can be cultivated. *M.*

[This variety requires a warm exposure to ripen its fruit. The tree makes a great growth when worked upon the peach root.]

*Cruger's Scarlet Gage.* — This showy scarlet plum, of the size of the green gage, and a great bearer, originated near Newburgh, N. Y.; flesh yellow, sweet, and of good flavor, ripening from September to October, and is less liable to drop from the tree than any other in our collection.

*Roe's Autumn Gage.* — This plum we received from A. J. Downing & Co., Newburgh, N. Y. It is a fine, late fruit, coming into eating just after the above variety; the form oblong, color orange yellow, good size, and great bearer; flavor sweet and rich, ripening in October. We prefer this to any late variety in our collection.

*White Sweet Damson.* — This seedling plum is a great bearer, ripening gradually from September to October; flavor sweet, not rich; color light yellow; but its fruitfulness and its early bearing render it worthy of cultivation. Raised in Essex county, Mass.

*Sharp's Emperor.* — The fruit of this variety is of the most beautiful red; form inclined to oval, resembling the imperial gage; flavor sweet. The tree bears well, and is worthy a place in every fruit garden. Ripe in September.

*Dana's Yellow Gage.* — This plum, a native of Ipswich, Mass., we received from Mr. Manning; and it is said to be exempt from the warts which injure most trees. We have, as yet, observed but few of these excrescences upon the tree, which is large. The fruit is of a pale yellow color, medium size, flesh juicy and sweet, and the tree is a great bearer. Ripe in August.

*Jefferson.* — A new seedling raised by the late Judge Buel, and recently brought into notice by Mr. Downing, who says, "If we were asked which we think the most desirable and beautiful of all dessert plums, we should undoubtedly give the name of this variety." We should hardly consider the quality of this fruit equal to the Purple or Green Gage; still it may be a more profitable plum for the market, as it is much larger and more beautiful, deserving extensive cultivation. Fruit ripens in August.

*Royale Hative.* — This fine early plum fruited with me the past season. It resembles the Purple Gage in form, and is nearly equal to that sort in

flavor ; fruit rather larger ; round, skin purple, covered with a blue bloom. The tree can be distinguished from the Purple Gage by its *downy branches*. Fruit ripens in August.

*Reine Claude Violet* (Purple Gage). This is a fruit of very high quality, fully equal, in all respects, to the Green Gage, and having this superiority, — that while the latter is apt to crack in wet summers, and will never keep well after being gathered, — this, on the contrary, will keep for weeks, and is scarcely at all disposed to crack. Size medium, form round, flattened at the top ; color violet, flesh greenish amber ; parting from the stone. Ripens early in September.

*Imperial Ottoman*. — This variety, comparatively little known, is among the earliest sorts, and one of the hardiest trees ; suiting itself to almost any climate where the plum will thrive. Col. Little, of Bangor, says it thrives well in Maine ; fruit medium size, oval. In general appearance, resembling the Imperial Gage. Mr. Downing, from whose magazine the above description is taken, says, "It is certainly among the best of the early kinds."

*Washington Seedling*. — This tree came up in our garden near a Washington and Blue Imperatrice Plum. The strong resemblance of its fruit to the former, would indicate its being a seedling of that variety. Fruit, color of the Washington, beautifully spotted, and tinted with red ; flesh yellow, rich, and delicious ; size and form of the Imperial Gage. The tree makes long-jointed and rather slender shoots. Ripens the last of August.

The following are new plums of recent introduction, not as yet fruited with us :—

De Montfort,  
Fellenberg,  
Guthrie's Late Green,  
Guthrie's New Apricot,  
Imperiale de Milan,  
Gifford's Lafayette,

Knight's Green Drying  
Peach,  
Columbia,  
Perdrigon Violet Hative,  
Reine Claude de Bavay,  
Reine Claude d'Octobre.

#### THE CHERRY.

The wild cherry is a native of many parts of the world, and has been cultivated in the East ever since the Christian era. Cherries were exposed in the markets of London in 1415, much in the manner they are at present. McIntosh remarks, that cherries have not multiplied so fast into varieties as most other fruits. Forsyth describes eighteen sorts; Lindley, twenty-eight; Nicol, eight; Rogers, twenty-five; the Horticultural Society of London, fifty-seven; and Loudon, twenty-three. This tree will accommodate itself to a variety of soils; but the best is that of a light loam upon a dry sub-soil, and in an airy exposure, not shaded by larger trees, and as little subject to damp fogs as possible, as the fruit in such situations is exceedingly apt to rot at the time of ripening. The cherry, as well as fruit trees generally, should not be transplanted when the ground is saturated with water, or what is termed muddy. In planting this, and other fruit trees generally, we prefer the autumn for light soils, and spring for those of a heavy and wet nature; and also to transplant in moist weather. Standard cherries, when once established, require very little pruning. They in general produce fruit upon spurs which proceed from the sides of the two-year, three-

year, and older branches. These spurs continue to make their appearance along the whole length of the shoots. It should be borne in mind, that immoderate pruning is highly injurious to the cherry, and also to the plum. The following are some of our best varieties of cherries:—

Black Tartarian,	Napoleon,
Honey Heart,	Mottled Bigarreau,
Black Eagle,	Early Red and Yellow,
Elton,	Davenport's,
Black Heart,	Gridley,
White Bigarreau,	Manning's Black Bigarreau.

*Mayduke.* — Fruit of medium size, round; the skin, when fully ripe, very dark red; the flesh tender, juicy, and good. It is very productive, and the fruit ripens the last of June. *M.*

*Davenport's.* — This fine cherry originated on the farm of Mr. Davenport, in Dorchester, Mass.; the fruit is large, skin bright red; the flesh firm, and of excellent flavor. It is an early and most extraordinary bearer. Fruit ripe early in July. *M.*

*Black Tartarian.* — One of the finest and most productive cherries; the size is large, heart-shaped; the color, when fully ripe, is black; flesh dark red, tender, and of superior flavor. Ripe early in July. *M.*

*Napoleon Bigarreau.* — The tree of this variety is remarkable for the vigor and beauty of its growth; the leaves are large and smooth. It is a fine, large, white cherry, ripening in July. As they have just come into bearing upon small trees, we cannot yet say how productive they may be. *M.*

[This variety is more productive in our soil than the Black Tartarian.]

*Black Heart.* — A well-known and favorite cherry, of medium size; the skin, when at maturity, is black; flesh dark red, tender and of fine flavor. Ripe in July. Very productive. We seldom see this cherry brought to market perfectly ripe; when suffered to remain on the tree till they have acquired their proper color, they are very superior. *M.*

*Elton.* — A new and very fine cherry, raised by Mr. Knight, President of the London Horticultural Society. It is of medium size, long heart-shape; of a beautiful cream color, marbled with bright red next the sun; flesh rich and excellent. It is ripe about the first of July, and promises, when the tree has attained a proper size, to be a great bearer. *M.*

*White Bigarreau.* — One of the largest and finest cherries; the form obtuse, heart-shaped; skin pale yellow, with a bright red cheek; flesh very firm, juicy, sweet, and fine flavored. Ripe in July. This cherry has the reputation of being a bad bearer. In our orchard it bears abundantly; and, owing to the hardness of its flesh, it is not liable to injury from birds; on this account it is highly deserving of cultivation. *M.*

*Black Eagle.* — This is a new cherry. The size is sometimes large, shape nearly that of the black heart; skin a very dark purple; flesh tender, of superior flavor; the young trees bear well. Ripe in July. *M.*

[This is one of the very best cherries known. It is said to have been raised by a young lady, of Mr. Knight's family, from the seed of a Bigarreau, fertilized by pollen of the Mayduke.]

*Waterloo.* — This variety ripens in August. The fruit is large, irregularly globular; the color a dark red, gradually changing to black when ripe; pulp firm, juicy, and the flavor pleasant. This is another of those excellent sorts which owe their origin to the young lady at Downton Castle, the seat of the late Mr. Knight.

*Gridley.* — Originated on the farm of Mr. Gridley, in Roxbury, Mass. Fruit of medium size, nearly round; skin black; flesh firm, rather dry, of good flavor, and a most abundant bearer. Ripe in July. *M.*

*Florence.* — This cherry resembles the White Bigarreau, but it is a little more oblong; the flesh more tender, and ripens a few days earlier. Very fine and productive. *M.*

*Downer.* — This fine cherry originated in the garden of Samuel Downer, Esq., in Dorchester. It is a large, round cherry, of a light red color; flesh firm, and of a fine, sprightly flavor. It ripens in July, and is very productive. *M.*

*Late Duke.* — The size is large, heart-shape, rather flat; the skin a shining dark red; flesh tender, juicy, and good. It is a great bearer. Ripe late in July. *M.*

*White Mazzard.* — A new fruit, which originated in the Pomological Garden, from a stone of the white Bigarreau; it is of the size, form, and color of the Elton; the tree is of a handsome and upright growth, and bears well. Ripe in August. *M.*

*Plumstone Morello.* — This is the largest and

finest of the acid cherries ; the skin is very dark red, when fully ripe it is nearly black ; flesh dark red, and of a sharp, rich, and agreeable flavor. A great bearer ; it remains late on the tree in a sound state. *M.*

*Manning's Black Bigarreau.* — This cherry, a seedling from the White Bigarreau, is of a fine, sprightly flavor, flesh firm, a great bearer, not subject to rot at the time of ripening, which is in the middle of July.

*Mottled Bigarreau.* — This is also a seedling of Mr. Manning's, from the White Bigarreau ; it is a superior large and sweet cherry, ripening from ten days to a fortnight earlier than its parent, and less liable to rot on the tree ; we consider it as good a variety as we possess. Ripe in July.

*Sweet Montmorency.* — This is one of the best late cherries here cultivated. Size small, fruit sweet, tree thrifty, a good bearer, and altogether a fine cherry for the table. It was raised from seed by Mr. J. F. Allen, of Salem.

*Early Red and Yellow.* — Fruit medium size, obtuse, heart-shaped, light red on a yellow ground ; sweet and juicy, a great bearer, and the earliest cherry we cultivate, ripening in June. This variety was raised by Mr. Manning from the seed of the White Bigarreau.

The following are new kinds of recent introduction, which we have not as yet fruited : —

Belle de Sceaux,  
Büttner's Black Heart,  
October Morello of Büttner,

Büttner's Yellow,  
Griotte de Chaux,  
Reine Hortense.

## THE GRAPE.

'Great difficulties' are attendant upon the raising of foreign grapes in the open air, except in our cities, where, *occasionally*, a crop is obtained of the Chaselas, or Sweetwater. In this compilation we intend to confine ourselves to out-door culture, and of the variety which we have cultivated for twelve years past, viz., the "Isabella," a native grape, introduced from South Carolina, some years since, by William Prince, of New York. This vine is extraordinary for the vigor of its growth and great productiveness. A single one planted on Long Island produced, in 1820, eight bushels. It is a late fruit, and consequently in a shady situation, or upon an open trellis, rarely ripens its berries. It should be trained to a wall, fence, or outbuilding, where it can receive the sun's rays nearly the whole day, at least from nine o'clock in the morning to three or four in the afternoon. We recommend this grape, from the circumstance that we have never, as yet, been able to find any other variety which, *upon the whole*, is preferable. The "Catawba," considered by Adlum to be worth all others as a wine grape, we have found to be a still later variety, having cultivated it for four years, without ripening a single bunch. In the cultivation of the Isabella, we have found the following method (which we tried a few years since) to accelerate the growth of this vine, as well as its flowering, viz.: Remove the top earth from around the trunk as far as the roots extend, and then place large stones upon the surface, watering occasionally, particu-

larly in dry weather, with soap suds. These stones retain the heat, which they received from the sun's rays during the day, a great part of the night. We know of no fruit which will, with such certainty, annually produce a crop, as this variety of grape. The vine is so luxuriant in its growth, and the immense quantity of wood which it annually produces, requires frequent use of the pruning knife, as it will always set more fruit than it can bring to maturity, which but serves to weaken and exhaust the plant. The importance attached to this point of culture, in reference to the capability of the vine for fruiting in foreign countries, as stated by Miller, is "that, when gentlemen let out vineyards, there is always a clause inserted in their leases, to direct how many shoots shall be left upon each vine, and the number of eyes to which the branches must be shortened." This is done to prevent the exhausting of the roots, and rendering them so weak as not to recover their wonted strength for several years. The pruning of the Isabella grape here is generally done in the fall, which should be done at or soon after the gathering of the fruit; for, by this early pruning, the buds are said to push earlier in the following spring. We have generally deferred this pruning until early in March. This season is often objected to, from the fear of their bleeding: this, however, rarely takes place, provided it is performed early, and the section which is laid bare be presented to the sun's rays, which will almost invariably close up the sap vessels. They should, therefore, be cut *from the outside, inward*, in an oblique direction.

The Isabella vine will grow most luxuriantly in

rich, deep soils, producing large shoots and leaves ; but the shoots and fruit ripen later, if they ripen at all. The best soil we consider to be that of a light loam, not deeper than twenty inches, mixed in with bones, old mortar, oyster shells, &c. " Retentive clays," as Loudon justly observes, " are the worst soil for the vine ; " they are particularly so if upon a wet and cold sub-soil.

The grape is easily raised from cuttings ; these must be taken from shoots of the last summer's growth, taken off the vine previous to the swelling of the buds in the spring, or in the autumn, and buried in a dry cellar. Shorten these to three joints, and, when they admit, let each cutting have about an inch of the previous year's wood at its bottom ; they may be planted either in nursery rows, or in places where they are finally to remain, observing to plant them somewhat slanting, and so deep that only one joint or eye may appear above ground. Vines are also propagated by layers of young shoots, or with part of the branch they proceed from ; laying them from three to four or five inches deep in the earth ; leaving three eyes of the shoot out of the ground, and shortening the top, if too long. Or you may make layers in large pots, placed near the vine ; and either draw the layer shoot through the hole at the bottom of the pot, and fill up the pot with earth, or bend the layer into the top of the pot a proper depth into the earth. In the former method, a strip of bark should be taken off quite round the branch, or a piece of wire drawn tightly around, at the place where the roots are wanted. In either method, when the layers are rooted next autumn, cut them off from the parent vine.

Upon the subject of manuring vines, the following, from one of the most distinguished writers on Agricultural Chemistry of modern times, Doctor Justus Liebig, of Europe, appears to us rational, as it seems to follow nature in her modes of enriching the soil : —

“I remember, (says Fauenfelder,) that twenty years ago, a man called Peter Muller had a vineyard here, which he manured with the branches pruned from the vines, and continued this practice for thirty years. His way of applying them was to hoe them into the soil, after having cut them into small pieces. His vineyard was always in a thriving condition, so much so, indeed, that the peasants here speak of it to this day, *wondering* that old Muller had so good a vineyard, and yet used no manure.”

Another example of this method of manuring vines, is from Wilhelm Ruff, who says, “that for the last ten years, I have been unable to place dung on my vineyard, because I am poor, and can buy none. But I was very unwilling to allow my vines to decay, as they are my only source of support in my old age; and I often walked very anxiously among them, without knowing what I should do. At last, my necessities became greater, which made me more attentive, so that I remarked that the grass was longer in some spots, where the branches of the vine fell, than on those where there were none; so I thought upon the matter, and then said to myself, — If these branches can make the grass strong and green, they must also be able to make my plants grow better, and become strong and green. I dug, therefore, my vineyard as deep as

if I would put dung into it, and cut the branches into pieces, placing them in the holes, and covering them with earth. In a year I had the very great satisfaction to see my barren vineyard become quite beautiful. This plan I continued every year, and now my vines grow splendidly, and remain the whole summer, green, even in the greatest heat. All my neighbors wonder very much how my vineyard is so rich, and that I obtain so many grapes from it; and yet they all know that I have put no dung upon it for ten years."

This proves, says Liebig, that a vineyard may be retained in fertility without the application of animal matter, when the leaves and branches, pruned from the trees, are cut into small pieces, and used as a manure.

The proper soil for the grape vine is of more importance than is generally supposed; for, as Mr. Hoare remarks on English culture (which will apply generally to our own), "Vines may be seen in all parts of the country, the fruit on which looks well during the early part of the season; but, when the ripening season arrives, the berries become green and hard." (With us under such circumstances, they do not color well.) "These results are sure to follow when the roots grow in a soil that is too wet and adhesive, and into which the sun and air cannot freely penetrate."

The natural soil, which is more congenial to the growth of the vine, and to the perfection of its fruit, is a light, rich, sandy loam, not more than eighteen to twenty inches in depth. On this subject, the venerable Rogers offers the following

rational observations : — “ The vine grows most luxuriously in rich, deep soils ; in that it has large shoots, leaves, and perhaps a few large bunches ; but the shoots and fruit ripen later, if they ripen at all, and the fruit will be very insipid. In opposite circumstances these results are reversed. In a shallow, light soil, the growth is moderate ; the shoots are small, although not weak ; the bunches numerous, well ripened, and of high flavor. The shoots or young wood are also thoroughly hardened, having prominent buds, and break with vigor and high health in the following year. It is also well known that the roots of the vine, in order to have healthy, moderately-sized shoots, and high-flavored fruit, require a horizontal range, more or less extensive ; deriving, it seems, much benefit from the influence of the air and heat of the sun, when near the surface. If these opinions are well founded, it is a matter of wonder that some authors have advised vast accumulations of the richest soils and manures mixed together, as if for the gross-feeding drum-head cabbage, rather than for the delicate feeding and abstemious grape vine, which, in its native habitation, is content to climb upon and subsist by what it can draw from the interstices of the rock.”

Regarding the summer pruning of the Isabella Grape in open culture, our practice heretofore has been, in common with many others, to cut or shorten the fruit, and other laterals which spring out from the joint upon the strong wood. We are, however, convinced that this severe pruning is improper ; the remarks of Mr. Downing on this subject, in a recent number of his popular period-

ical, is so philosophical and rational, that we have copied it into our manual. He says, "The native grapes are very luxuriant growers; they make every season of life to themselves a great mass of foliage; and the almost universal practice is to cut off, when the grapes are about the size of peas, every shoot, two or three joints beyond the outermost bunch of grapes. This is done under the impression, first, that to leave so much young wood and foliage is to rob the growing fruit of its fair supply of food; and second, that every bunch should be well exposed to the sun, in order to assist it in coming to full maturity. We ourselves practised this mode of summer pruning for several years, even after we had doubts of its propriety, and were frequently disposed to lay to its charge the diminished size of the grapes, of which we are now confident it was the cause."

"In 1843 our attention was attracted by an article, from the able pen of Dr. Lindley, on this subject. It began with the following propositions:—

"(1.) If all the leaves which a tree will naturally form, are exposed to favorable influences, and receive the light of a brilliant sun, all the fruit which such a plant may produce, will ripen perfectly in a summer that is long enough.

"(2.) If all the leaves of a tree are exposed to such influences, all its fruit will advance as far towards ripening as the length of the summer will admit of; it may be sour and colorless, but that condition will be perfect of its kind.

"(3.) But if all the fruit which a healthy tree will show is allowed to set, and a large part of

the leaves is abstracted, such fruit, be the summer what it may, will never ripen.

“(4.) Therefore, if a necessity exist for taking off a part of the leaves of a tree, a part of its fruit should also be destroyed.

“(5.) But although a tree may be able to ripen all the fruit which it shows, yet such fruit will neither be so large nor so sweet, under equal circumstances, as if a part of it is removed; because a tree only forms a certain amount of secretions, and if those secretions are divided among twenty fruits instead of ten, each fruit will, in the former case, have but half the amount of nutrition which it would have received in the latter case.

“(6.) The period of ripening in fruit will be accelerated by an abundant foliage, and retarded by a scanty foliage.”

“Dr. Lindley stated, that he considered these propositions as the expression of general truths, applicable to all cases, but *especially to the vine*. If they were founded, as he believed, in well-ascertained laws, then the vigorous summer pruning of the vine is totally wrong. He recommended, on the contrary, that not only should the whole crop of leaves be unpruned, but that the lateral shoots, always hitherto removed, should be allowed to remain, because all those laterals, if allowed to grow, would, by the end of the season, have contributed somewhat to the matter stored in the stem for the nutrition of the fruit; because the preparation of such matter would have been much more rapid, and because the ripening of the fruit, which depends on the presence of such matter, would have been in

proportion to the rapidity of its formation.”—“It is a mistake,” continues he, “to imagine that the sun must shine on the bunches of grapes in order to ripen them. Nature intended no such thing, when heavy clusters were caused to grow on slender stalks, and to hang below the foliage of the branches, attached to trees by their strong and numerous tendrils. On the contrary, it is evident that vines naturally bear their fruit in such a way as to screen it from the sun; and man is most unwise when he rashly interferes with this intention. What is wanted is the full exposure of the *leaves* to the sun; they will prepare the nutriment of the grape; they will feed it, and nurse it, and eventually rear it up into succulence and lusciousness. Struck at that time with the soundness and the force of this reasoning, we immediately put in practice the suggestions it contained. We abandoned, for the most part, summer pruning on our vines, and recommended it verbally to many others. The result of three years’ trial has fully convinced us, and we believe all others who have tested it, of the entire superiority of the grapes, both as regards maturity and the weight of the crop, in all cases where the common and severe system of summer pruning is abandoned.”

“All that we find it necessary to do now, with grapes in the open air, is, at the beginning of July, to go over them, and tie up to the trellis or frame, all rambling shoots. If, from any neglect at the season of winter (spring) pruning, or when the buds were thinned in May, too many young shoots have been suffered to grow, a few of them may be cut close down to the point

where they start, taking off the whole branch, fruit, and leaves. The remaining branches and leaves will then be able to provide nutriment for themselves. It should, however, be remarked, that if the winter pruning and the spring disbudding have been properly done, no summer pruning whatever will be necessary. 'But,' says some person accustomed to cutting off half a cart-load of foliage from his hardy vines every July, 'what am I to do with the mass of foliage, running into a wild wilderness, that I find upon my vines every midsummer? It would smother the grapes.' We answer, Provide against it by pruning back the side spurs or shoots, close to the leading stems every winter. And when several buds start out from the same place to make the current season's wood, rub off all but *two*. In this way you will prevent the vine from producing too much wood, or more fruit than it can properly carry; and you will also allow the shoots that form the current year's growth, to produce and retain all the foliage which it is possible for them to do, in order that the grapes which they bear may have the utmost supply of nutriment. We cannot better conclude these remarks than by the following paragraph from Dr. Lindley's article. It relates to *autumn* pruning, and is as much to the point here as in England."

"When, however, the branches have grown for many weeks, and are in the autumn beginning to slacken in their power of lengthening, theory says it is then right to stop the shoots by pinching off their ends, because after that season, newly formed leaves have little time to do more

than organize themselves, which must take place at the expense of matter forming in the other leaves. *Autumn-stopping* of the vine shoots is therefore advantageous; for the leaves which remain after that operation will then direct all their energy to the perfection of the grapes."

## THE QUINCE.

This fruit is a native of Austria and other parts of Europe, and was introduced into England at an early period, from whence we probably received it. They are said to have been early used in Europe for hedges and fences to gardens and vineyards. The medicinal properties of this fruit were at one time in repute. There are two well-known varieties, viz. : the apple or orange, and the Portugal or pear-shaped. The former, which is the best known in New England, has leaves of a more ovate form, and bark of a lighter color than those of the latter. They both produce the finest fruit when grown in a soft, moist soil, and warm exposure, and can be produced by cuttings in such soil. These trees, or bushes, should be planted from ten to twelve feet apart, requiring little pruning. They should, however, be kept free from suckers, and all old decayed wood. They are easily grafted under the bark in early spring, or budded in August and September. The orange we have considered to be earlier in its ripening, than the Portugal. McIntosh remarks that he has always observed the quince to succeed the best on the alluvial banks of rivers. There has been an increased attention to the cultivation of the quince, for a few years past, as a market fruit.

## THE RASPBERRY.

This fruit, which has improved greatly under cultivation, is easily grown, as the old plants send up, annually, plenty of suckers from their roots, which should be taken up in autumn or spring, and planted where they are to remain. In the selection of young sucker shoots, to set in the spring, choose those that are of strong growth, from three to four feet high, detached from the old stools with good roots; prune the top to the first good bud; plant them in rows four feet and a half or five feet asunder, by three feet; prune out all dead stems, of the last summer bearers, from the old roots, *as the same shoots or stems never bear but once*, being succeeded by young shoots produced from the root, every summer, which becomes barren next year, and perishes the following winter, and should be now cut out as above, close to the ground; part of the young shoots should also be cut away, leaving but four or five of the strongest on each stock. Prune off the tops of those that remain, leaving them about five feet high, which increases the size of the fruit; as well as encourages the growth of suckers for the following year. This cutting, however, should not be done in the spring, *until* all chance of severe frost is over. The stems should afterwards be tied lightly together at the top, or to stakes placed in the ground. With regard to the proper soil for this fruit, different opinions have existed. McIntosh says, "All that is required, we think, is a deep, rich, and humid soil; for upon shallow, dry, and poor soils, they neither

produce such fine fruit, nor do the plants last as long. In deep alluvial soils, this fruit attains a perfection seldom seen elsewhere."

Cultivators generally approve of a soil of the above description, and most of them recommend a situation either naturally or artificially shaded. This is very necessary here, under our July and August sun, that the plants may be grown in a *half* shady position. Some cultivators, with the view of obtaining large fruit, cut away all the suckers, and also the young wood; by that means, larger fruit is obtained, but the plants are rendered useless for future bearing, and are consequently destroyed, and fresh plantations must be formed.

Among the varieties of raspberries which we have seen, the Franconia Red, Fastolff, Red Antwerp, and the White Antwerp, are the most desirable sorts for cultivation. The Fastolff ranks the highest, for size, of either sort. Dr. Brinkle, of Philadelphia, has raised some new varieties not yet introduced here.

#### THE GOOSEBERRY.

The gooseberry, in its wild or uncultivated state, is found in most countries of Europe, as also in this country. They have increased in size under cultivation, and the varieties are now so extensive, that their names alone would occupy more space than could be appropriated in this compilation. Seven hundred and twenty-two are enumerated by Lindley; these are divided or classed according to their colors — white, green, yellow, red, and dark purple. These differ much

in quality ; some of the largest fruit, having a thick skin, are fit only for cooking, while others are fine for the table. In our importations of this fruit, we have invariably sent for those only which are considered the best table varieties, without regard to names. We cultivate nineteen sorts, received four years since from Europe, as the best table varieties ; these differ in size and in color. The gooseberry bush will flourish in almost any soil, but that which is humid and richly manured will produce the largest fruit. "The best soil," says Rogers, "is a fine fresh loam, neither too heavy nor too light, eighteen inches deep, and if resting on a sub-soil of clay, so much the better." They should be set in the most open and airy situation in the garden ; as in a confined and close location, as well as in the hot sun without a good circulation of air, they are exceedingly inclined to mildew. To destroy the green worm, as also the small orange-colored aphides, which often injure the bushes and destroy the fruit, we sprinkle the plants with salt and water early in the spring, *before the leaves are developed* ; the mixture may then be made so strong as to whiten the branches, without affecting the future crop of fruit. Should the leaves or buds be in part expanded, the brine should be greatly reduced, say one quart of salt to about eight gallons of soft water, applied over the bushes from the nose of a watering pot. One of the best situations for this fruit is upon moist and warm hills.

These bushes are easily raised from cuttings, provided you have moist soil, by placing them into the ground, immediately upon the falling of the leaf, when the shoots of the summer are well rip-

ened, or very early in the following spring. These should be taken from the strongest and cleanest shoots of the last summer's growth, rubbing off the buds to within three or four at the top; they should then be inserted from three to five inches deep, according to the nature of the soil and situation; all buds that may push below those left at the top, to form the head of the bush, should be cut away. Gooseberries bear their fruit on the last year's shoots, and on short natural studs or spurs; they will continue to bear on the same buds or spurs for many years, especially if the branches are kept open and free for the admission of the sun and air. To have large fruit, they should be trained to resemble a well-formed tree in miniature; the ground around the bushes should be enriched with well-rotted manure; cut out all decayed or irregular branches, let none be permitted to grow across each other; also the superabundant lateral shoots of the last summer, on the old wood near the ground, only retaining here and there one in vacant parts, to form successional bearers, and to supply the places of unfruitful branches.

## THE CURRANT.

The white, red, and black currants are the varieties in cultivation; the two first are indigenous to Britain. The white, which is supposed to be a hybrid, accidentally produced by culture, and has been brought to a high degree of cultivation by the Dutch (who do not, however, claim it as a native of Holland), are the varieties which our gardens at this time present. They are all justly

considered to be among our most desirable and wholesome fruits. Lindley describes six sorts, and the Fruit Catalogue of the London Horticultural Society enumerates fourteen. The following we consider among the best: Knight's Large Red, a fine fruit considerably larger than the Red Dutch. May's Victoria; a new variety which we saw at Wilson's Nursery, in Albany, hanging upon the bushes late in the season; producing long bunches of handsome red fruit, larger than any variety we had previously seen. Black Naples; large dark-colored fruit. White Dutch; this is the finest flavored currant we cultivate, producing abundantly; fruit amber color, and transparent. Red Dutch; dark-red fruit, with full bunches, rather more acid than the white.

When the currant is planted out, it ought not to be suffered to have any limbs within six inches of the ground, but should be made to have a clear and straight trunk to that height. When the shoots come out, they should be thinned to four or six, which are to be the future-bearing branches, and, by shortening these at the end of the first year, you double the number of limbs. This we consider the best method of pruning currants; trained and pruned in this way, they occupy little space, and therefore admit of the ground between the rows being cultivated with other crops.

The same instructions for the culture of the gooseberry will apply in the main to this fruit, with the exception that they do not require the like airy situation, as they are not liable to mildew. Both fruits do better when set in open inclosures than against fences or walls. High manuring is as essential for the production of large ber-

ries in the currant as in the gooseberry. Autumnal planting is preferable to the spring. They should be set at about five feet distance each way, and no branches suffered to grow within five or six inches from the ground; all the laterals below this being rubbed off, and the bushes grown in the form of a small tree. The insects which infest the gooseberry are the same with this fruit, and the same method used for their extermination. Currants and gooseberries, when planted by the sides of walks and alleys, are very cumbersome, in general. It is better to plant them in quarters by themselves, and to make new plantations every fifth or sixth year; for young plants produce handsomer fruit than old ones, and more plentifully.

## STRAWBERRY.

There are numerous varieties of this fruit, and new sorts are constantly being produced in Europe, as well as in our country. The late President of the London Horticultural Society, of London, Thomas Andrew Knight, had not less than four hundred varieties of this fruit in his garden, almost all of his own raising. Few plants multiply more readily than the strawberry, either by succors from the main stem, or by runners, which extend to a considerable length, and strike root at every joint, from which a new plant springs. These, when rooted, are separated from the parent, and planted out where they are to remain. They are also increased by seeds.

The Alpine varieties are thus raised by many. The seeds are sown in the spring, in a bed of light

rich mould ; and by August the plants will be of a proper size for setting out. These differ from other sorts in quickness of bearing, as most others, sown in the spring, will not produce fruit under two years. The Alpine will continue to bear fruit throughout the season ; but, although a constant succession of fruit is obtained through the season of vegetation, the supply is but very limited, and it is consequently not a profitable variety for common culture. There are a number of fine varieties in general cultivation, prolific, and of fine flavor. Among these are the following :

Swainstone's Seedling,	Iowa,
Black Prince,	Early Virginia,
Hovey's Seedling,	Bishop's Orange.

These are all desirable sorts ; the Early Virginia is generally considered to be the most profitable early fruit for the market.

“ With respect to the season for planting this fruit, opinions are somewhat at variance ; some recommending autumn, and others spring (we prefer the latter in our region). If the plants are strong, and have been selected from the earliest runners, they will succeed very well if planted in the fall. Garnier, an English cultivator, makes his beds in August, or as soon as the fruit is gathered. Keen, however, says, he has ‘ always found the spring better, planting them in beds containing three or four rows, and the plants in each row at a certain distance from each other, leaving an alley between each bed the distance of the rows.’ Lindley ‘ prepares the ground for his plants by trenching twenty inches deep, and adding a quantity of half-rotted dung ; the roots of strawberries, penetrating as they do to a considerable depth, it

is at their extremities that they, in common with all plants, take up their nourishment.' He plants in beds of four rows each, with alleys from two feet to two feet and a half between the beds. The stronger growing sorts are set fifteen inches apart between the rows, and the same distance between each plant. The medium-sized growers (Early Virginia) are allowed twelve inches each way; and the smaller growing, such as the Alpine, twelve inches by nine. Shaded and dark situations, or under the drip of trees, although sometimes chosen, are unfavorable for this fruit. They ought to be accommodated with an open, airy, and warm exposure.

"After the plantation is once made, the principal attention required is, keeping the ground free from weeds by repeated hoeing. The practice of Keen is not only to keep the ground clear from weeds, but on no account to allow any other crop to be planted between the rows; and I recommend (says he) to scatter some loose straw, or long dung, between the rows, as it serves to keep the ground moist, enriches the strawberry, and forms a clean bed for the trusses of fruit to lie upon; and thus, by a little extra trouble and cost, an abundant crop may be obtained."

Some cultivators recommend cutting off the leaves of strawberry plants in autumn; while others, with better reason, highly disapprove of this course; also the practice of digging between the rows in autumn. Knight, and also Young, says, "that this practice of digging shortens the lateral roots, and the plants not only lose the true sap, which such roots abundantly contain, but the organs themselves, which the plants must

depend upon for supplies of new food in the spring, must be, to a considerable extent, destroyed." Strawberry beds in this latitude should be covered in the fall with leaves, straw, litter, or seaweed; this last article we have used in preference to any other material, as it is not subject to heat and rot, and is more easily removed in the spring.

The method of cultivating the strawberry in hills, we approve, particularly for the larger growing varieties. Cutting off the runners as they appear; the roots will, under this treatment, throw out a greater quantity of fruit, and larger berries. This course of culture is peculiarly well adapted for a weedy soil, as these are more easily eradicated from around the plants.

The practice of Keen, already quoted, is as follows, "After the beds are planted, I keep them as clear of weeds as possible, and on no account allow any other crop to be planted between the rows. In the autumn I always have the rows dug between, for I find it refreshes the plants materially; and I recommend to those to whom it may be convenient, to scatter in the spring, very lightly, some loose straw or long dung between the rows. It serves to keep the ground moist, enriches the strawberry, and forms a clean bed for the trusses of fruit to lie upon." We should not coincide with the above directions entirely, particularly in digging between the rows in autumn, believing with a distinguished cultivator of this fruit, that, "by shortening the lateral roots in autumn, the plants not only lose the true sap which such roots abundantly contain, but the organs themselves, which the plants must depend

upon for supplies of new food in the spring, must be, to a considerable extent, destroyed."

The following method of cultivating the strawberry we think one of the best: Early in the spring, select young runners of the past season, strike out the rows three feet apart, setting the plants about one foot distance in the rows. These plants will cover the beds the first season, and produce well the following year. After bearing, they are then dug in, which is done every season, the plants bearing but once; a new plantation being made every spring. This method is practised successfully by Mr. J. C. Lee, at his grounds on Dearborn Street, Salem, Mass.

#### FRUIT TREES, GIRDLED BY MICE.

The meadow or field mouse frequently injures or destroys trees, particularly in winter, when there are deep snows, by gnawing the bark quite round the limb through into the wood.

The best method to preserve such trees is to procure long scions, and, as soon as the bark will peel, which will take place on the movement of the sap, to insert them by bark grafting or inarching one end under the living bark *below* the *debarked* circle, and the other under the *corresponding bark above*; then take strong bass matting, and bind it closely above and below, covering the whole with a composition of clay, cow manure, and hair finely incorporated, in order to keep out the sun and air. Each end of the scion must be pared away upon one side, previous to their being set, as described in the article "Grafting under the Bark."

The above process is more successful upon the apple, pear, and quince, than upon the plum, cherry, or peach.

#### GATHERING AND PRESERVING PEARS.

In gathering fruits from standard trees, it is desirable that the ladder should be of such form as not to injure or bark the limbs, the best sort is undoubtedly the Step Ladder. "These have a fulcrum, or back, by which they stand nearly perpendicular, and independent of any other object.

This fulcrum is removeable at pleasure, being kept in its proper position by two iron bars, which, when removed, fall back on the ascending part. The steps in such ladders are flat, instead of round, as in most other ladders, and hence are less fatiguing to the feet of the operator. The Double Ladder differs only from the above in having two ordinary ladders fixed together at the top upon an iron axle, the one acting as a fulcrum to the other."

Of the instruments called "Fruit Gatherers," there are many sorts: one of the best is Saul's, which consists of a pair of cutters attached to a long pole, which may be lengthened by screwed joints or otherwise. The operating lever may be attached to any part of the pole; the lever of the moveable blade has a spring under it, to keep it open, and the communicating spring passes over a pulley; the cutters are so connected to the pole by a joint and arch, that they may be set at any angle required, for the purpose of getting at the fruit readily; a basket is placed under the pulley and cutting part, for the reception of the fruit.

Regarding the best method of keeping or ripening our fine melting winter pears, but few instructions have as yet been given in our country; more has been done in Europe. Hitt, in his *Treatise on Fruit Trees*, says, "After laying the fruit in the fruit room to sweat, and having wiped them dry with a linen cloth, they are then packed in earthenware jars, between layers of well-dried moss. When the jars are full, they are stopped with plugs as close as possible, and buried a foot or more in sand." McIntosh writes, "Sand, paper, sawdust, chaff, charcoal, peat-earth, coal ashes, &c., have all been used to pack fruit in; of these, dry sand, charcoal, peat-earth, and coal ashes, are, in our opinion, the best medium in which to pack the fruit." Mr. Ingram, of Scotland, "finds that for winter pears two apartments are requisite, a colder and a warmer; but the former, though cold, must be free from damp. From it the fruit is brought into the warmer room as wanted; and, by means of increased temperature, maturation is promoted, and the fruit rendered delicious and mellow; the Chaumontel Pear, for example, is placed in close drawers, so near to the stove, that the temperature may constantly be between sixty or seventy degrees of Fahrenheit; for most kinds of fruit, however, a temperature equal to fifty-five degrees is found sufficient." Mr. Robert Thompson, of the London Horticultural Society, has found that both pears and apples keep longest when packed in dry fern, in boxes or hampers, and placed in a dry shed or cellar, where but a slight change of temperature takes place. McIntosh prefers to keep his pears on the shelves of the fruit room,

in single layers, so that any which begin to decay may be easily picked out. This has been our practice. "Cellars, *if dry*, as is justly said, and not subject to become heated from any cause, are much better situations for keeping fruits in, than lofts or garrets, their temperature being much less liable to change; and as a low and uniform temperature is the means of preservation for all fruits, the necessity of a due attention to this particular will be at once apparent."

In gathering fruits, a dry day should be chosen, particularly for winter pears and apples; and the middle of the day should be preferred, when the foliage and fruit are perfectly dry.

"All summer fruit," says the venerable Rogers of Southampton, "should be gathered in the cool of the morning; they are then more juicy and high flavored; if gathered in the heat of the day, they are vapid, and not half so refreshing to the palate, as when gathered before the sun has much power; but in regard to gathering the more valuable and winter fruits, the case is wholly different." It is also important that keeping pears should be as completely ripened as the climate and season will admit of; for if they are gathered before maturity, they shrivel, and do not keep so well; hence, old Tusser, in his "Five Hundred Points of Good Husbandry," says,—

"Fruit gathered too timelie, will taste of the wood,  
Will shrink and be bitter, and seldome prove good;  
So fruit that is shaken, or beat off a tree,  
With bruising in falling, soon faultie will be."

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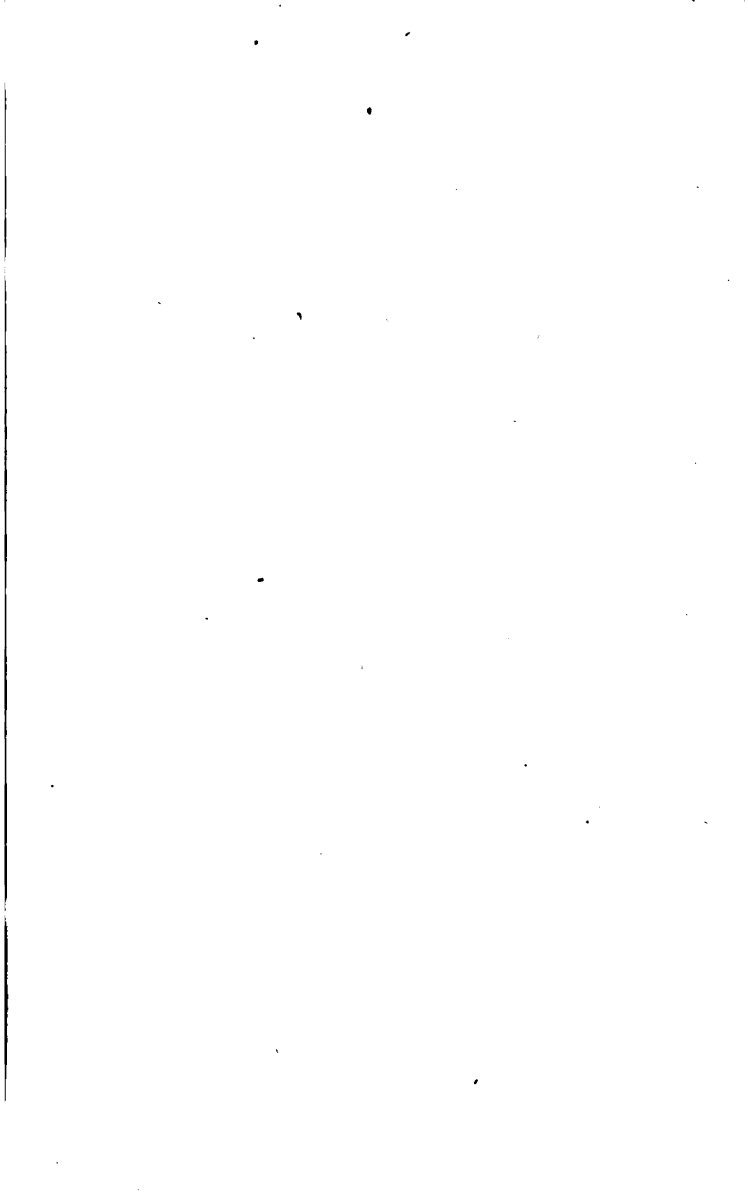
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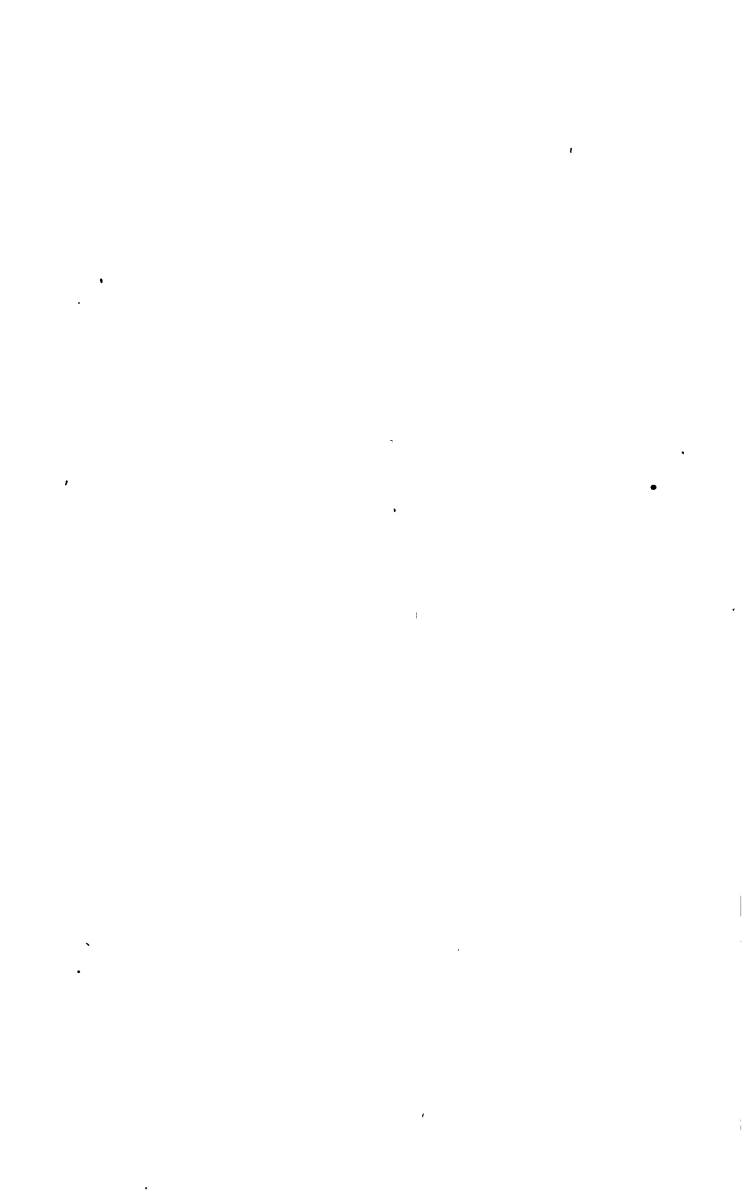
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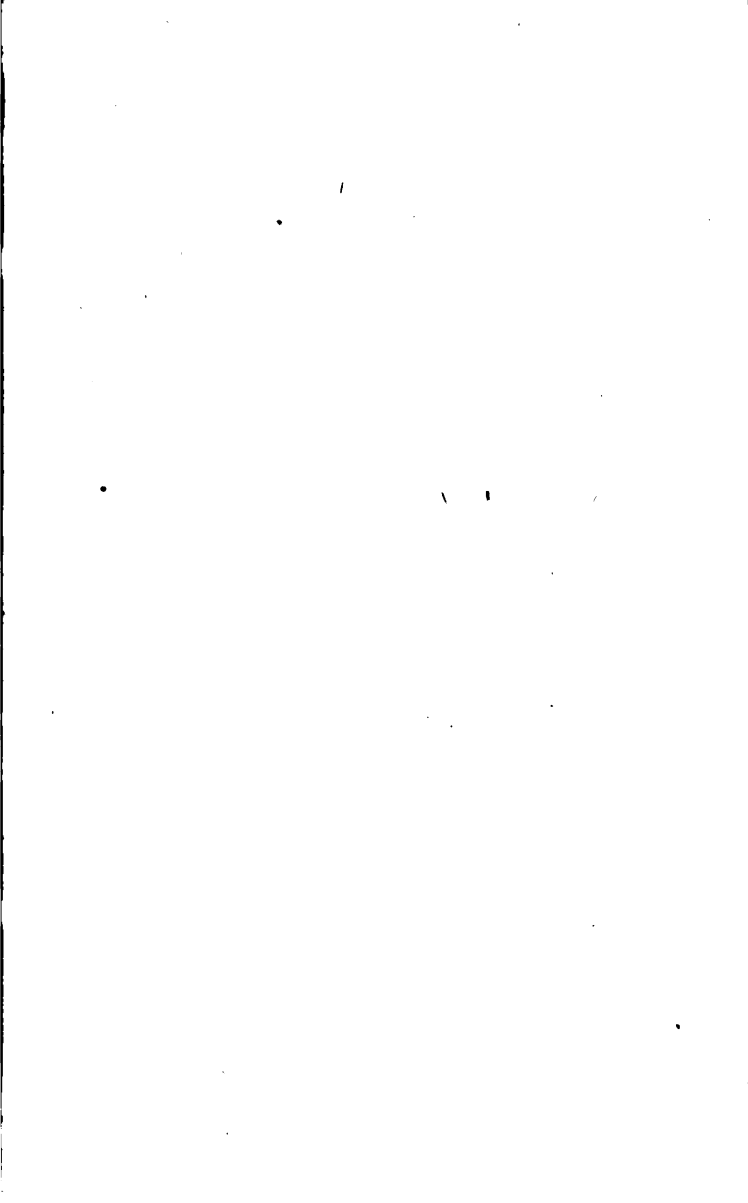
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